CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF CITY PLANNING

ENVIRONMENTAL IMPACT REPORT

ASSESSOR'S
Block 331
MIXED USE DEVELOPMENT

DRAFT

81.448 E

PUBLICATION DATE: April 29, 1983
PUBLIC HEARING DATE: June 9, 1983
PUBLIC COMMENT PERIOD: April 29, 1983 through June 17, 1983

WRITTEN COMMENTS SHOULD BE SENT TO THE ENVIRONMENTAL REVIEW OFFICER, 450 McALLISTER STREET, SAN FRANCISCO, CA 94102

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I. SUMMARY

Project Description

The project sponsor, Theme Resorts, Inc., proposes to construct a building with three stepped towers ranging from 17 to 30 stories, 190 to 320 feet, in height; two of the towers would contain offices and residential dwellings, and one tower would contain a 455-room hotel. The project would involve the demolition of seven buildings containing a total of 94,800 square feet. The project includes the retention and rehabilitation of three existing residential hotels (the Crystal and Empress hotels on-site and the Hotel Zee off-site) and two existing apartment buildings; after rehabilitation, a total of about 320 units (including hotel rooms) contained in these structures would be retained as low-income housing and a total of 20,300 square feet would be retained as commercial space. The 96,285-square-foot site is located on Assessor's Block (AB) 331, on Lots 1, 1A, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14, 15, and 16; the site is bounded by Ellis, Eddy, Taylor and Mason Sts. The site includes the entire block with the exception of the William Penn (Lot 9) and the Mason (Lot 12) Hotels. The site is within the eastern Tenderloin district and is about three blocks southwest of Union Square.

The three highrise towers would rise above a podium base containing a 3-1/2-level underground garage (about 640 stalls), street-oriented retail spaces (about 45,000 square feet), common truck and loading/service facilities at ground level (seven truck loading docks and five spaces for service/delivery vans), and a 12,000-square-foot landscaped courtyard. The Ellis Tower, 320 feet high, and the Taylor Tower, 190 feet high, would contain office and residential uses, each with five floors of office space, and 24 and 10 floors of residential space, respectively; the Mason Tower, 260 feet high, would be a hotel with 455 rooms. The project would have a total new construction of about 990,000 gross square feet: new office space, 219,000 gross square feet; 455 new hotel units, 333,000 gross square feet; new retail space, 45,000 gross square feet, and 370 market-rate dwelling units, 392,000 gross square feet. Approximately 18,000 gross square feet of usable open space would be provided. Rehabilitated commercial space (about 20,300 gross square feet) would be used for neighborhood-serving stores; to accomplish this, the

project sponsor intends to lease this commercial space below market-rate. The 320 rehabilitated low-income-housing units would constitute about 129,000 gross square feet. There would be a grand total (new and rehabilitated) of about 1,076,000 gross square feet on-site plus 45,000 gross square feet (rehabilitated) off-site.

Project's Environmental Impacts

LAND USE AND ZONING

Current land uses on the project site are low-intensity and mixed, with four residential hotels (three of which are included on the project site), two apartment buildings, above-ground parking areas, and retail and entertainment establishments. The project would result in a change in land uses (primarily the addition of office space, about 210,000 net square feet, and the addition of transient hotel rooms, 455, on-site) and in the intensity of land use (primarily the addition of 370 market rate residential units). The project would eliminate 420 public parking places, some residential hotel and apartment units, and some retail uses. New construction would include a 3-1/2 level, 640-space subsurface parking garage, a tourist hotel (the Mason Tower), market-rate residential units and commercial office space in the Ellis and Taylor Towers, and tourist-oriented retail space. Two residential hotels and two apartment buildings on-site and one residential hotel off-site would be rehabilitated and retained as low-income rental units. Rehabilitated retail space would be neighborhood-serving stores.

The current interim zoning of the site is RC-4. In May 1982, the City Planning Commission initiated a set of interim zoning controls (CPC Resolution 9382) that today govern the development on the project site. The purpose of these temporary controls was to restrict demolition and conversion of residential hotel units for non-residential uses while the Department of City Planning developed new permanent zoning regulations for the Tenderloin. The project as described would require conditional use authorization for an increase in the allowable floor area ratio (FAR), in office floor space above ground floor levels, and in the proposed use of the site for a non-residential hotel. Before the interim RC-4 zoning, the site was zoned C-3-G (downtown general commercial), which provides for hotel, office and retail uses. The Department of City Planning is currently considering permanent zoning controls for the Tenderloin, which would include the project site. These proposals include the North of Market - Mixed Use District (NOM - MUD) and

Guiding Downtown Development (July 1982). See p. 9 of this Summary and Section VII., pp. 167 to 171 for a discussion of alternatives that would meet the requirements of these two proposals.

ARCHITECTURAL RESOURCES, VISUAL ASPECTS, AND URBAN DESIGN

The project would result in the demolition of the Flood Garage, rated "B" on the Heritage survey and "1" on the City Survey. Three "C"-rated buildings and two "D"-rated buildings on the Heritage Survey would also be demolished. A total of five "C"-rated buildings on the Heritage Survey would be rehabilitated.

The development would have a variety of building types and heights. The highest tower proposed would have a scale similar to those of the approved Hilton Tower No. 2, Holiday Inn, and Ramada hotels north and east of the site. The visual contrast between the three proposed project towers and the small-scale residential uses south and west of the site would be partially offset by retaining design details characteristic of these south and west neighborhoods in the towers' street-level facades. Pedestrian amenities such as a landscaped courtyard and street trees would be provided. Potentially displeasing visual aspects created by the project would be the underground-parking ingresses and egresses.

The rehabilitated structures, combined with the stepped towers, would give the block variations in scale and character that would be visible from the neighborhood or from a distance. The project would increase wind speed ratios on-site because of an air-channeling effect. Large portions of Taylor, Ellis, and Mason Sts. would be in shade from the project for most of the year at different times of day. Hallidie Plaza, a designated public space southeast of the site, would not be shaded by the project at any time of the year.

EMPLOYMENT, HOUSING, AND FISCAL ASPECTS

The project would increase local employment, both during the construction phase and on a permanent basis. Construction would generate about 685 person-years of required labor. The development would result also in about 1340 permanent full-time jobs on site, a net increase of about 1,280 jobs.

The project's office component would increase local housing demand by 90-190 households in San Francisco, an increase that would be met by new residences on-site; the project could contribute to regional housing demand.

The project would have an assessed valuation of approximately $109,000,000, reflecting its fair market value. This would result in a property tax revenue, based on 1982-83 rates, of about $1,280,000; about $953,000 of this would go to the City's General Fund, which would be a net increase of approximately $899,000 from the project site. (All figures quoted here are per annum and in 1982 dollars.)

TRANSPORTATION, CIRCULATION, AND PARKING

The project would be expected to increase commute trips on Muni, and to a lesser extent on BART. The existing and proposed hotels surrounding the site, together with the proposed hotel on-site, would cause traffic and parking impacts which would not conflict with peak-hour flow from downtown office buildings around the proposed project. P.M. peak-hour pedestrian flow on Eddy, Ellis, Mason, and Taylor Sts. would increase but would still allow free movement. The seven truck-loading stalls proposed would be expected to accommodate increased truck traffic. Total on-site parking supply would be adequate to meet the new demand for parking. However, elimination of about 420 public parking spaces could cause a worst-case deficit of 325 parking spaces.

The proposed project accounts for 1.3% of the total cumulative net 17.3 million gross square feet of San Francisco office space under construction, proposed, or under formal review. This overall growth, and the 0.6 million gross square feet of net new retail space, would generate approximately 51,500 person-trip ends during the weekday p.m. peak hour. The project would generate about 2.2% of the cumulative new trips.

AIR QUALITY

Construction activity would affect local air quality for about the first six months of construction, but would not create a nuisance or health hazard. Air quality impacts associated with operation of the project would result primarily from vehicle emissions. Project-related emissions would impede the attainment of standards for hydrocarbons,

carbon monoxide, and particulates; however they would probably not have a measurable impact on citywide or regional concentrations. The project would add to the cumulative increase in ozone downwind, but would not have a statistically significant effect on ozone concentrations.

CONSTRUCTION NOISE

Construction activity would increase neighborhood noise levels for a period of approximately 30 months. The project may require pile driving during foundation preparation, which could be considerably annoying to residents remaining on site, and to adjacent and nearby building occupants and users. On the assumption of a worst-case source noise level and no obstacles or structures attenuating the noise, pile driving would be audible to people on the streets at distances up to one mile from the project site. With quieter pile drivers and the effects of intervening buildings taken into account, the noise impact would be limited to about a 500- to 1,000-foot radius.

ENERGY

Estimated annual project consumption would total about 173 billion Btu in natural gas and electricity. Additional electric demand (and possible additional natural gas demand) by the project could be accommodated by existing and planned PG&E facilities. Construction energy requirements would be about 20% of annual building energy requirements. The project would be designed to comply with prescriptive energy-efficiency standards established by the California Administrative Code (Title 24). HVAC systems could be extensive and require large amounts of electricity to drive circulating fans. The towers' heights and orientations would result in large passive solar energy inputs; this would be energy-conserving in winter and energy-consuming in summer.

GEOLOGY, SEISMICITY, AND HYDROLOGY

The project would result in the removal of approximately 55,000 cubic yards of earth for foundation excavation. It is probable that shallow foundations, set in dense sands, would support all of the buildings adequately; otherwise pile-driving may occur. The excavation pit would probably need to be shored. Other excavations in the vicinity have been done with only minor problems. Excavation pits would most likely not require dewatering except in isolated spots.

Seismic hazards to buildings at the site would be reduced by strengthening of existing structurally substandard buildings. The new buildings would meet seismic standards of the San Francisco Building Code. Swaying motions from a major earthquake would present the greatest potential seismic hazard, causing glass to break and unsecured objects to fall. Earthquakes could also damage or sever infrastructure connections to site buildings.

Mitigation Measures

Major mitigation measures proposed as part of the project include:

- During rehabilitation, the project sponsor would make available, on the project site, temporary residences for displaced tenants. After completion of rehabilitation, these residents would be given first priority to return to their former residences if they qualify under HUD Section 8 guidelines. Rehabilitated residences would be managed and operated within HUD Section 8 low-income-housing guidelines.

- The project sponsor would require the new hotel operator to give Tenderloin residents hiring preference over other equally qualified applicants. Similarly, the sponsor would require the general contractor to give hiring preference to qualified Tenderloin residents. Minority hiring for construction workers would also be included.

- The project sponsor has agreed to contribute funds, to maintain and increase transportation service, in an amount proportional to the demand created by the project.

- The project sponsor would encourage public transportation use by arranging on-site sale of BART tickets, and Muni and Golden Gate Transit passes. The sponsor would also encourage a tenant carpool/vanpool system in conjunction with Rides for Bay Area Commuters.

- Safe and secure bicycle parking, handicapped-parking spaces, and handicapped-access facilities would be part of the project.

- The project sponsor would require that unpaved demolition and construction areas be watered to reduce dust emissions. The general contractor would be required to maintain and operate construction equipment in ways that minimize exhaust emissions.

- To lessen construction noise effects, the project sponsor would coordinate with Hilton, Holiday Inn, and Ramada Hotel management, providing arrangements for "daytime sleeping rooms" farthest from construction noise source.

- The contractor would be required by the project sponsor to do the following to mitigate construction noise impacts: muffle and shield exhaust noise, shroud impact tools, and use electric-powered equipment wherever possible; pre-drill holes for piles; erect solid barriers around the site; and meet with the Department of Public Works to establish a work period that would minimize neighborhood disturbance.

- The project would incorporate internal security measures such as 24-hour staffed guard stations in the hotel lobby and office portions of the towers, closed-circuit monitoring cameras, well-lit entries, and alarm systems.

- For energy conservation, installed residential and office lighting loads would be limited to about 2.0 and 2.3 watts per square foot of usable floor area, respectively. Fluorescent and high-intensity discharge lamps would be used for all office areas, and a central lighting control system would permit master control of office lights when buildings are unoccupied.

- The project sponsor would have a detailed soils and geotechnical report prepared for the site, that would include detailed information on soil types and locations, seismic impacts on the soils, and groundwater conditions. Another report would be prepared on existing structural systems of the buildings intended to be refurbished, so that these buildings' foundations can be most efficiently reinforced.

- The contractor would be required by the sponsor to construct catchment basins on site to collect silt and debris for later transportation to approved disposal sites, and would monitor the quality of water discharged into City sewers.

Alternatives

Several alternatives to the proposed project have been analyzed in the EIR. All alternatives, except for the No-Project alternative, would retain and rehabilitate approximately 87,500 square feet of residential hotel, apartment and commercial space on-site, and provide new construction.

A. No-Project: In Alternative A, the project block would not be developed by the project sponsor, and existing conditions as described in Section III., Environmental Setting, pp. 37-69, would remain. The Crystal Hotel, Empress Hotel, and Hotel Zee would not be rehabilitated, nor would the El Don and 250 Taylor St. apartment buildings. Appproximately 370 market-rate housing units would not be added to the City's housing stock. In 1986, traffic, transit, and air quality conditions described in Section IV., Environmental Impacts (pp. 112-128) would be the same as projected base conditions with cumulative development, without the project. The sponsor has rejected this alternative because it would be an economic underuse of the site and because it would not provide additional residential units, hotel rooms and office space to meet perceived existing and future demand in San Francisco.

B. North of Market - Mixed Use District (NOM - MUD): Alternative B would develop a project that would comply with the Department of City Planning's March 1983 proposal for the North of Market - Mixed Use District (NOM - MUD). The NOM - MUD would affect development on the western two-thirds of the project site and block; the eastern third of the site would remain in the C-3-G district. Alternative B would construct a total of about 967,000 square feet, approximately 21,000 square feet less than the project, and would rehabilitate the same amount of residential space on-site. However, unlike the project, Alternative B would not rehabilitate the Hotel Zee off-site. Environmental effects of Alternative B would be similar to those of the project.

C. North of Market Planning Coalition (NOMPC) Rezoning Proposal, June 1981: Alternative C would comply fully with the interim development controls proposed in the June 1981 NOMPC rezoning applications (81.254 EZ and 81.505 EZ). Development of the site would be governed by the RC-4 Planning Code Use District and an 80-X Height district (no bulk limits apply). About 457,300 residential square feet, or 430 residential units, and 76,200 square feet of retail/commercial space

would be provided. A tourist hotel would not be constructed in this alternative. Unlike the project, Alternative C would include no residential rehabilitation on-site or off-site. Alternative C would not include the Diamond Hotel in the project site; the Diamond Hotel would remain in its existing state. The maximum height of new construction in Alternative C would be 80 feet, as compared to project tower heights ranging from 190 to 320 feet. Environmental impacts of Alternative C would be less than those generated by the project. Alternative C has been rejected by the sponsor, as it would be an economic underuse of the site.

D. Guiding Downtown Development (GDD), July 1982 Alternative: Development of the project block under Alternative D would comply with the revised GDD (July 1982). GDD proposes that Lot 10 of the project site be reclassified to RC-4; the remaining lots of the project site and block would be in the C-3-G district. Alternative D would construct a total of about 965,700 square feet. As in the proposed project, Alternative D would rehabilitate 87,500 square feet of residential and commercial space on-site and 45,000 square feet off-site. The environmental effects created by Alternative D would not be measurably different from those associated with the proposed project.

E. Office/Residential Alternative: This alternative would not include a tourist hotel. Total new construction in Alternative E would be 981,400 gross square feet, 6,600 square feet fewer than in the project. On-site rehabilitation of 87,500 square feet would be the same for Alternative E as it would be for the project; however, the off-site rehabilitation of the Hotel Zee would not be included in this alternative. Five percent more permanent jobs would be provided in this alternative. Fewer unskilled and semi-skilled jobs would be provided, as no hotel use would be included in Alternative E. About 30% fewer p.m. peak-hour vehicle trip ends and six percent fewer Muni trips would be generated than would be with the project. Air quality effects of this alternative would be similar to those of the project. Alternative E has been rejected by the project sponsor. The sponsor believes that development of the site with only office/retail and residential uses would not provide a complementary mix of uses and activities on the project block.

F. Original (1981) Proposed Development Alternative: Alternative F is the development originally proposed by the sponsor in the fall of 1981. This alternative is described essentially in the Initial Study (Appendix A, p. A-1), except that the square footages and total number of residential units have been modified slightly. Alternative F would include a total of 1.2 million square feet of new construction and, as in the proposed project, about 87,500 square feet of on-site rehabilitation; off-site rehabilitation of the Hotel Zee would not occur. Shadows cast on the sidewalks of Taylor, Mason, and Ellis Sts. would be longer than project shadows. Wind effects of this alternative are discussed in detail in Appendix B, p. A- 29 (referred to in the wind tunnel study as Alternative 2). The 1.2 million square feet of new construction in Alternative F would create a net increase of about 800 jobs, as compared to project net employment of 1280 jobs. Housing demand in Alternative F would be 60 units, 130 fewer than the project's demand of 190 units. In Alternative F, about 125 peak-hour net vehicle trip ends would be generated, as compared to the project's generation of 120 trip ends. A two percent increase in Muni trips over project trips would be generated in this alternative. Air-quality conditions would be the same as with the project. This Alternative was abandoned, as it would not meet any of the proposed rezoning and development requirements applicable to the site.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF THE PROPOSED PROJECT

The project sponsor, Theme Resorts, Inc., was organized in 1977 as a California corporation for the purpose of developing properties, primarily hotel and commercial projects. The sponsor intends to provide new and rehabilitated uses on Assessor's Block 331 in response to current demand for new office space, low-income and market-rate housing, and hotel rooms in downtown San Francisco. The project architects are Beland/Gianelli and Whisler-Patri Associated Architects.

B. LOCATION OF THE PROPOSED PROJECT

The project site is located on Assessor's Block 331 (Lots 1, 1A, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14, 15, and 16), bounded by Ellis, Eddy, Taylor, and Mason Sts. (see Figure 1, p. 12). The site includes the entire block, with the exception of the 4-story William Penn Hotel (Lot 9), part of the Urban Development and Action Grant (UDAG) program, and the Mason Hotel (Lot 6), a transient hotel. The project includes the rehabilitation of the Hotel Zee, located on Lot 18 of Assessor's Block 340, directly south of Block 331 across Eddy St. Although the Hotel Zee is part of the project's rehabilitation plans, the site of the hotel is not considered part of the project site. The location of the Hotel Zee is shown in Figure 2, p. 13. Unless otherwise indicated, references to the project site are to the 15 lots (identified above) within Assessor's Block 331. The 96,284-square-foot site is located in the eastern Tenderloin, one to two blocks north of Market St. The site is about three blocks southwest of Union Square and lies at the southwestern fringe of the Union Square hotel district. The existing Hilton Hotel and Tower is located opposite the site on Ellis St.

C. PROJECT DESCRIPTION

The sponsor proposes to construct three stepped towers ranging from 17 to 30 stories, 190 to 320 feet in height (from ground level); two of the towers (Ellis and Taylor) would

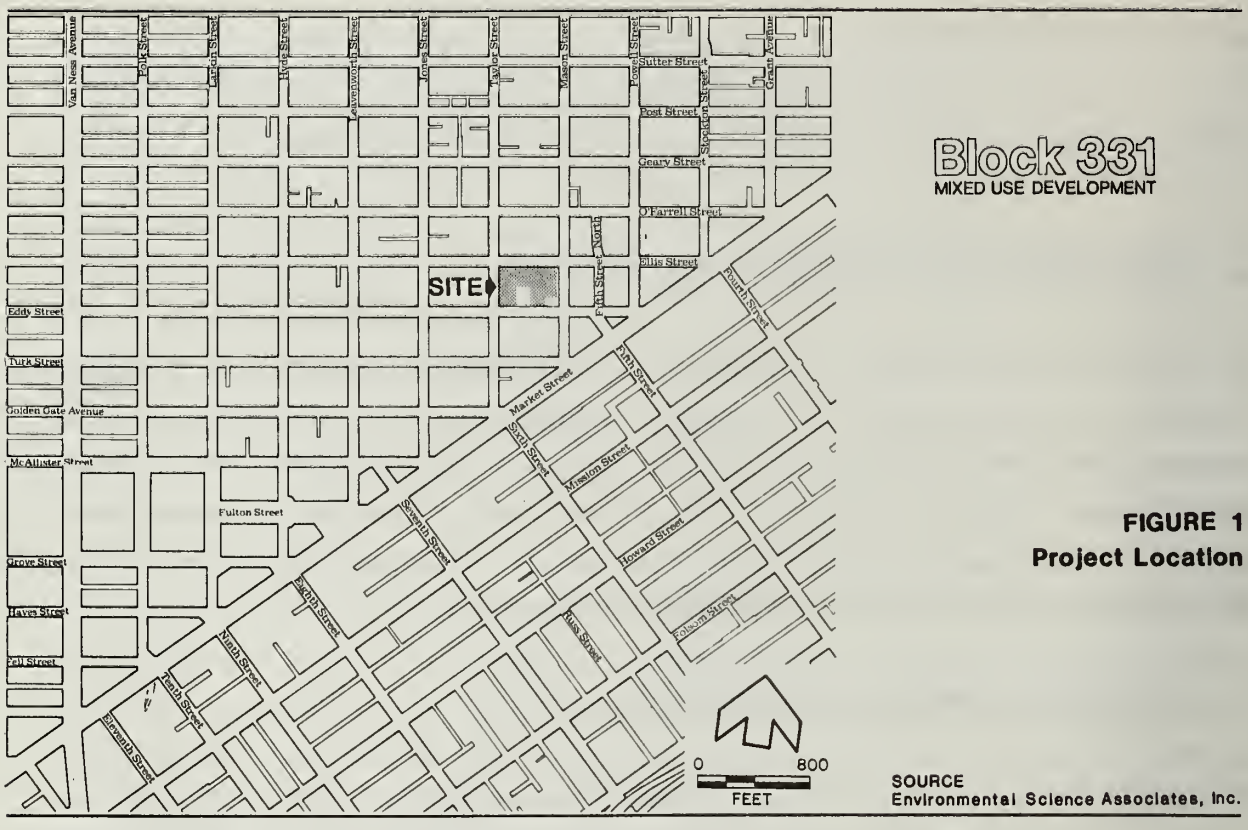
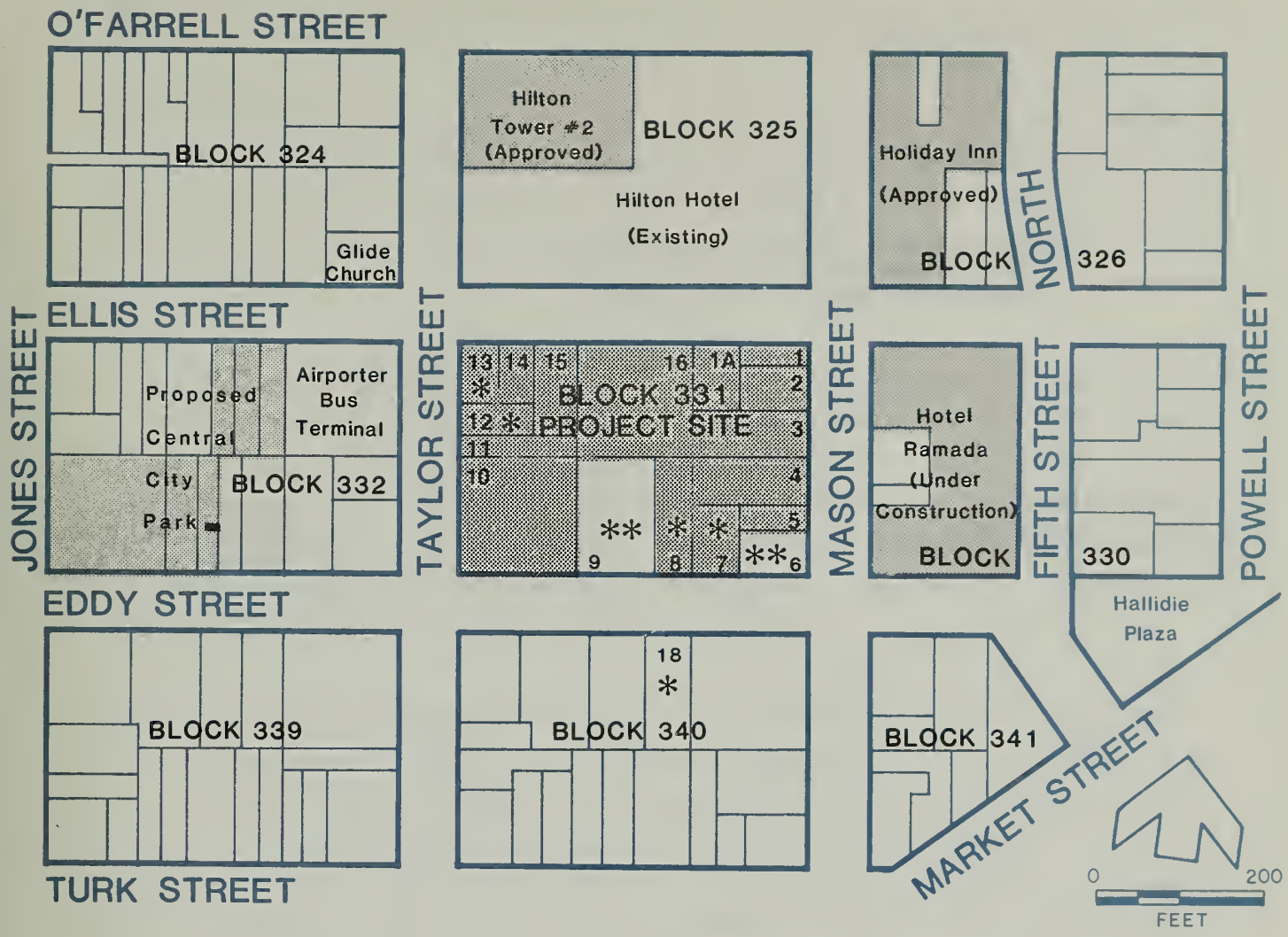


FIGURE 1
Project Location

contain five and six levels of offices, respectively and market rate residential dwellings (24 floors, 270 units in Ellis Tower and 10 floors, 100 units in the Taylor Tower), and one tower (Mason Tower) would contain a 455-room hotel. (See Figure 3, p. 14.) Uses (i.e. several parking lots, a parking garage, and commercial and residential buildings) on 11 of the 15 lots that are part of the project, 1, 1A, 2, 3, 4, 5, 10, 11, 14, 15, and 16, would be demolished and/or replaced by new construction. The project would require the demolition of seven buildings with a total of 94,800 square feet. On-site, the project would include the retention and rehabilitation of two existing residential hotels and two existing apartment buildings (located on lots 7, 8, 12, and 13); off-site, the Hotel Zee, on Lot 18, Block 340, would also be rehabilitated. A total of 320 units would be rehabilitated (about 190 units on-site and 130 units off-site) and retained as low-income housing. Additionally, a total of 20,300 square feet within these rehabilitated buildings would be retained as commercial space: 13,300 square feet of this would be within buildings on Block 331 and 7,000 square feet would be within the Hotel Zee, on Assessor's Block 340. The proposed project has been modified since the preparation of the Initial Study; the project is now 20% smaller, and no longer includes the Mason Hotel but does now include the Hotel Zee as part of the rehabilitation.



LEGEND

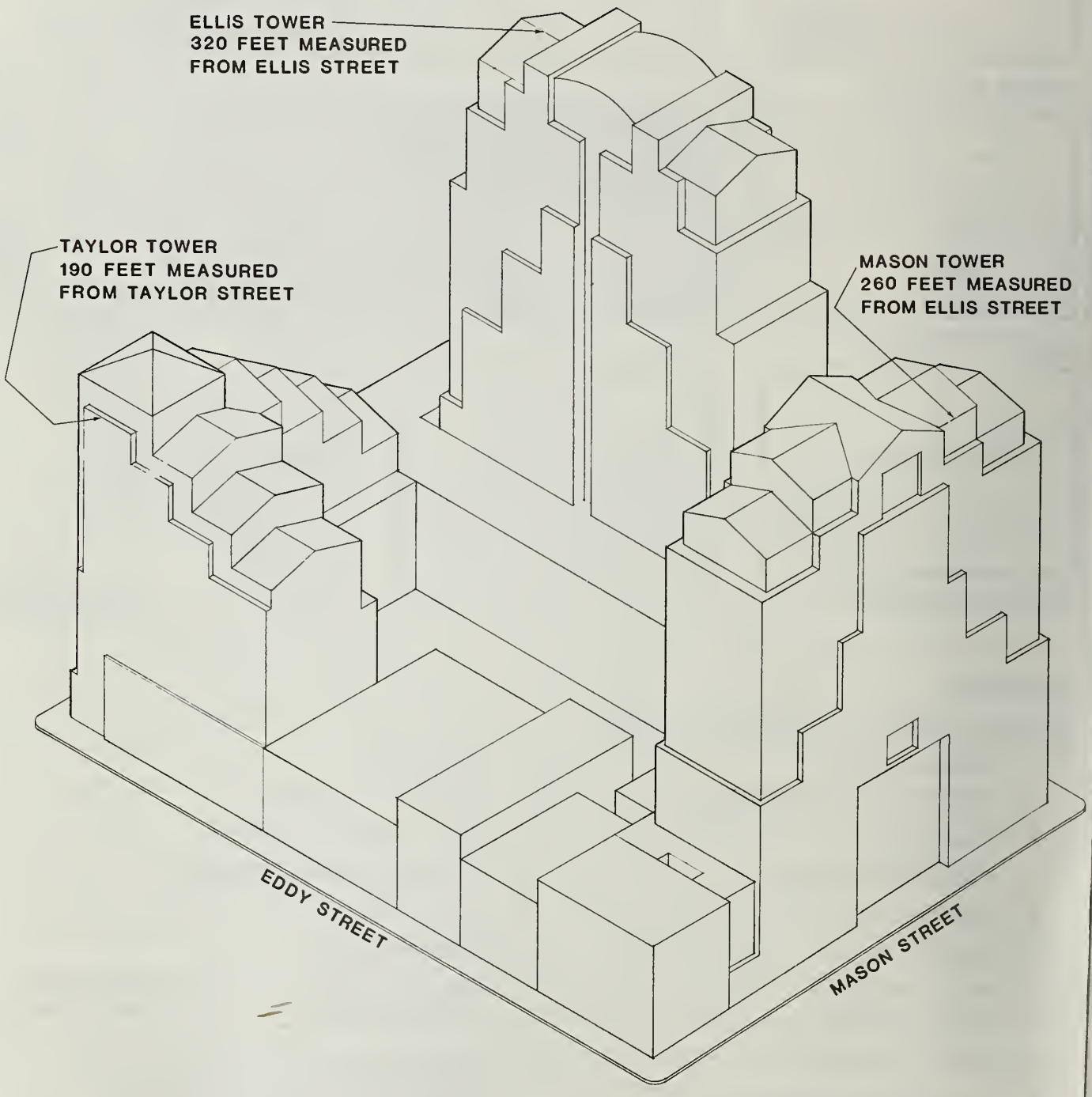
EXISTING USES IN LOTS ON BLOCK 331

1	Diamond Hotel	11	Parking Lot
1A	San Francisco Health Club	12	El Don Apartments *
2	Parking Lot	13	250 Taylor (Apartment)
3	Stores, Parking Lot	14	281 Ellis (Apartment/Retail)
4	Parking Lot	15	Bank of America
5	Chez Paree	16	Flood Garage
6	Mason Hotel **	18	Hotel Zee Located on Lot 18, Block 340 will be rehabilitated as part of the project *
7	Crystal Hotel *		
8	Empress Hotel *	*	Buildings to be rehabilitated as part of project. Buildings without asterisk on project site would be demolished.
9	William Penn Hotel **		
10	Parking Lot	**	Not part of project

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 2
Project Vicinity



VIEW FROM SOUTHEAST

SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE
Isometric Drawi
of Project Towe

The three highrise towers would rise above a base containing a 3-1/2-level underground garage, street-oriented retail spaces and common truck loading/service facility at ground level, and a courtyard level having a 12,000-square-foot landscaped courtyard atop the truck loading facilities. Table 1, p. 16, provides a detailed breakdown of the floor area for the project.

The underground parking structure, as shown in the floor plans for the Eddy Street Level and Parking Levels 1-3 (Figures 4 and 5, pp. 17 and 18), would be shared by the three towers. Because of the street level difference, the half level of the garage would be located on the Ellis St. frontage. (The remaining half level on the Eddy St. half would be used for retail stores.) The garage would provide 640 car stalls, including 42 stalls for handicapped drivers. Automobile entrances to the parking garage would be provided from both Mason and Taylor Sts. All cars would exit onto Eddy St.

The circulation plan is illustrated in the Ellis Street Level floor plan (Figure 6, p. 19). The porte-cochere, located at the corner of Ellis and Mason Sts. on the ground level of the Mason Tower, would accommodate up to two tour buses, and provide a taxi waiting area and private vehicle dropoff. Buses, taxis, and private vehicles would enter and exit the porte-cochere from either Ellis or Mason St. A private service alley would be developed for the project, providing one-way access, entering from Taylor St. and exiting on Mason St. This through-block alley would allow a consolidated truck loading and service facility for the entire project. The off-street truck loading facility would serve five service vans, six 35-foot trucks, and one 55-foot semi-trailer truck at any one time. The off-street loading docks would provide direct access to the service elevators. An emergency first-aid facility would be located at this level, as part of the truck dock supervisor's office near the Taylor St. entrance. A minimum vertical clearance of 14 feet would be provided throughout the truck-loading facility.

Street trees would be planted around the entire block. The street trees selected would complement plantings along Market St., Hallidie Plaza, and the Airporter Bus Terminal immediately west of the site.

Entrances to the proposed residential towers would be at ground level. Residential entrances to the Taylor and Ellis Towers would be from Taylor St. and Ellis St., respectively. The residential portions of the Taylor and Ellis Towers would each have a

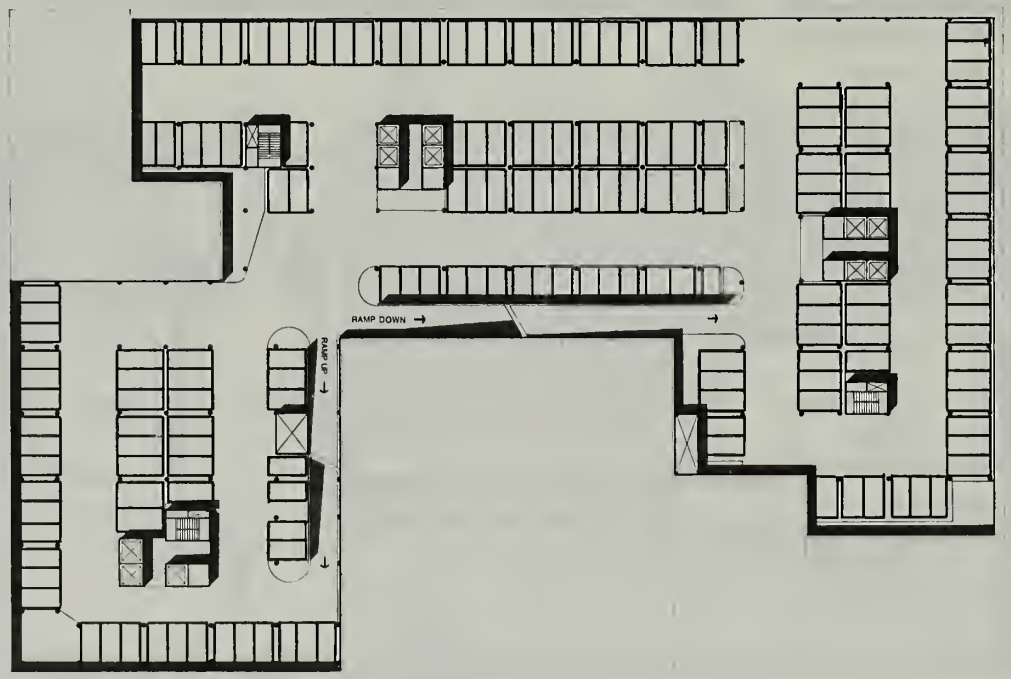
TABLE 1: PROPOSED FLOOR AREAS (in gross square feet)

Use	New Construction* Mason**	Ellis**	Taylor**	Total
Retail/Commercial	16,700	17,800	10,200	44,700
Office Space	---	120,000	98,600	218,600
Hotel				
Rooms (units)	455	---	---	455
Rooms (square feet)	283,400	---	---	283,400
Common Areas	28,700	---	---	28,700
Meeting Rooms	7,100	---	---	7,100
Restaurant/Lounge	13,700	---	---	13,700
Dwelling Units				
Total Dwelling Units	---	270	100	370
Square feet	---	287,100	104,700	391,800
Total Floor Area	349,600	424,900	213,500	988,000
Parking Sq. Ft.	---	---	---	283,400
Total Stalls	---	---	---	640
Loading Dock				
Stalls 12' x 35'	---	---	---	6
Stalls 12' x 55'	---	---	---	1
Stalls*** 12' x 20'	---	---	---	5
Open Space				
Balconies (private)	---	4,700	---	4,700
Courtyard (public)	---	---	---	12,300
Roof Gardens (public)	---	4,000	2,000	6,000

Rehabilitated Uses****

Use	On-site (on AB 331)	Off-site (Hotel Zee)	Total
Retail/Commercial	13,300	7,000	20,300
Hotel	42,000 (125 units)	45,000 (130 units)	87,000 (255 units)
Dwelling Units	42,000 (65 units)	--- ---	42,000 (65 units)

* All square feet numbers rounded to the nearest 100.
** All floor area estimates are based on the sponsor's conceptual design drawings, dated September 7, 1982.
*** For service/delivery vans.
**** Floor areas for the buildings that are to be retained and rehabilitated are estimates.
SOURCE: Whisler-Patri Architects



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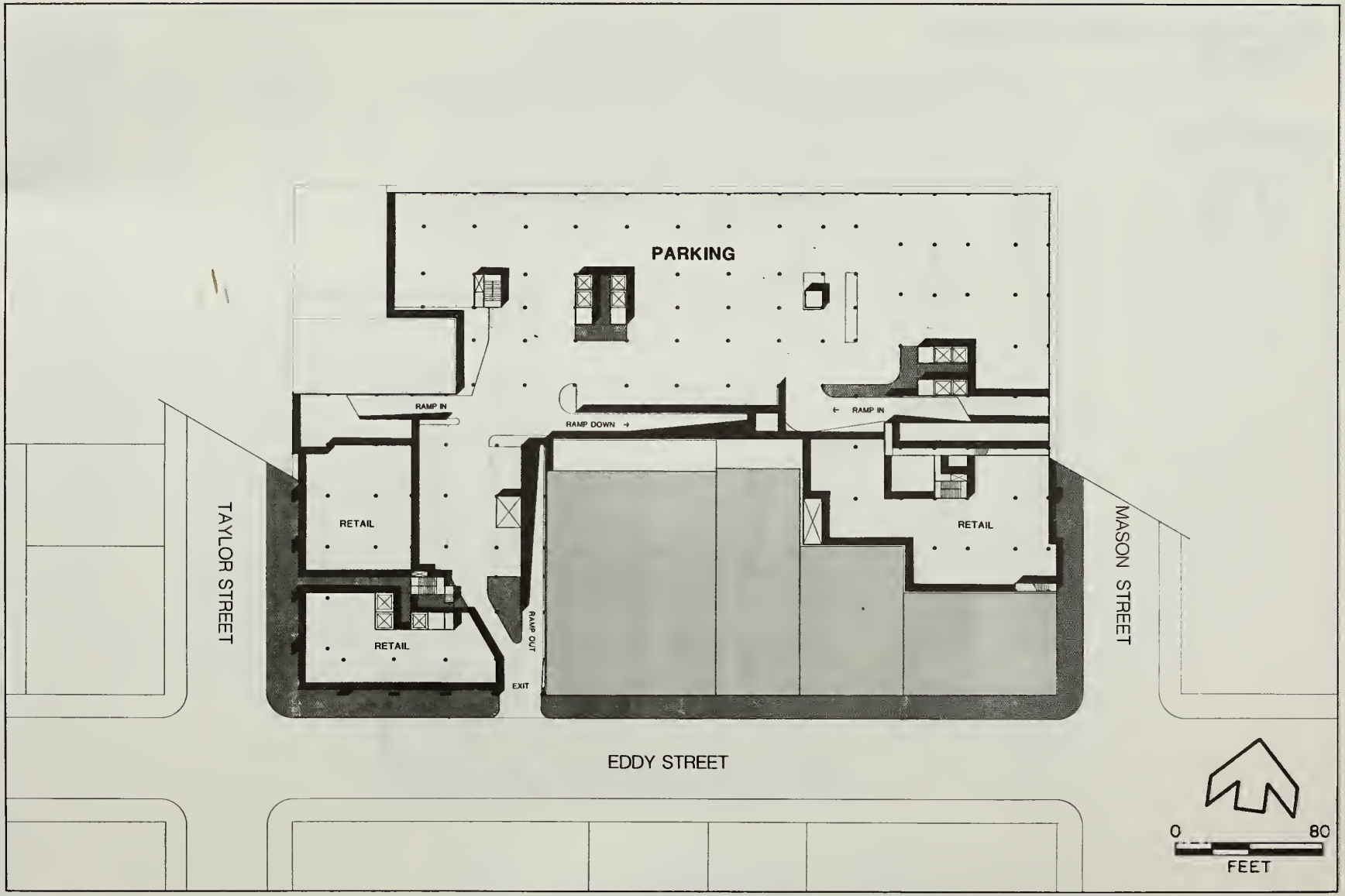
SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

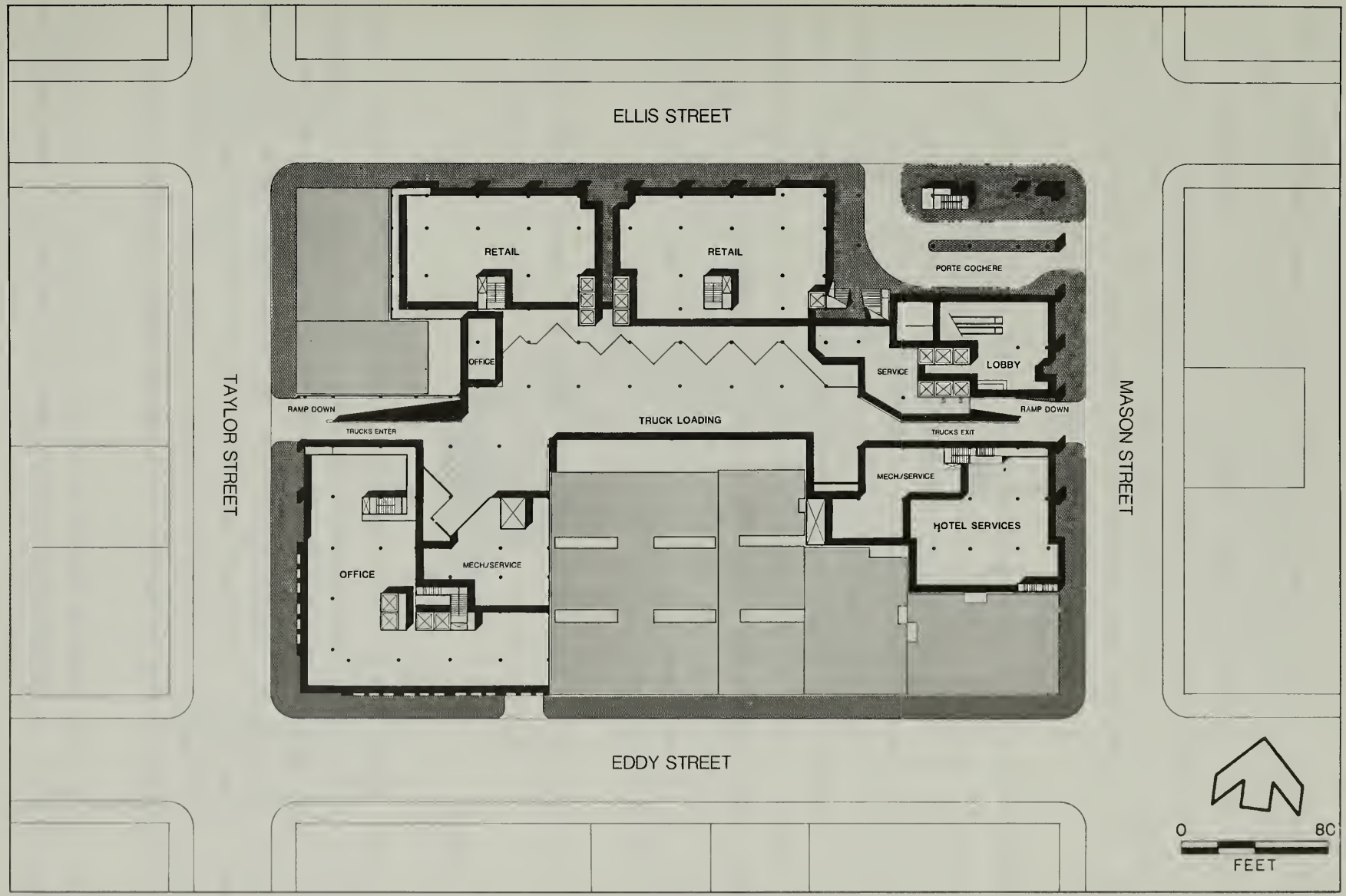
FIGURE 4
Parking Levels 1-3 Floor Plan



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 5
Floor 1 - Eddy Street Level Floor Plan



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 6
Floor 2 - Ellis Street Level Floor Plan

separate and secured entrance. An entrance to the courtyard level (see Figure 7, p. 21) would be provided from Ellis St. via a ground level escalator; this entrance would be primarily for office workers and people wishing to go to the courtyard area. The entrances to the hotel lobby on the courtyard level would be via elevators or escalators from the ground level of the Mason Tower and from the porte cochere area at Ellis and Mason Sts. At the courtyard level, pedestrians could walk either to the hotel lobby or to the offices.

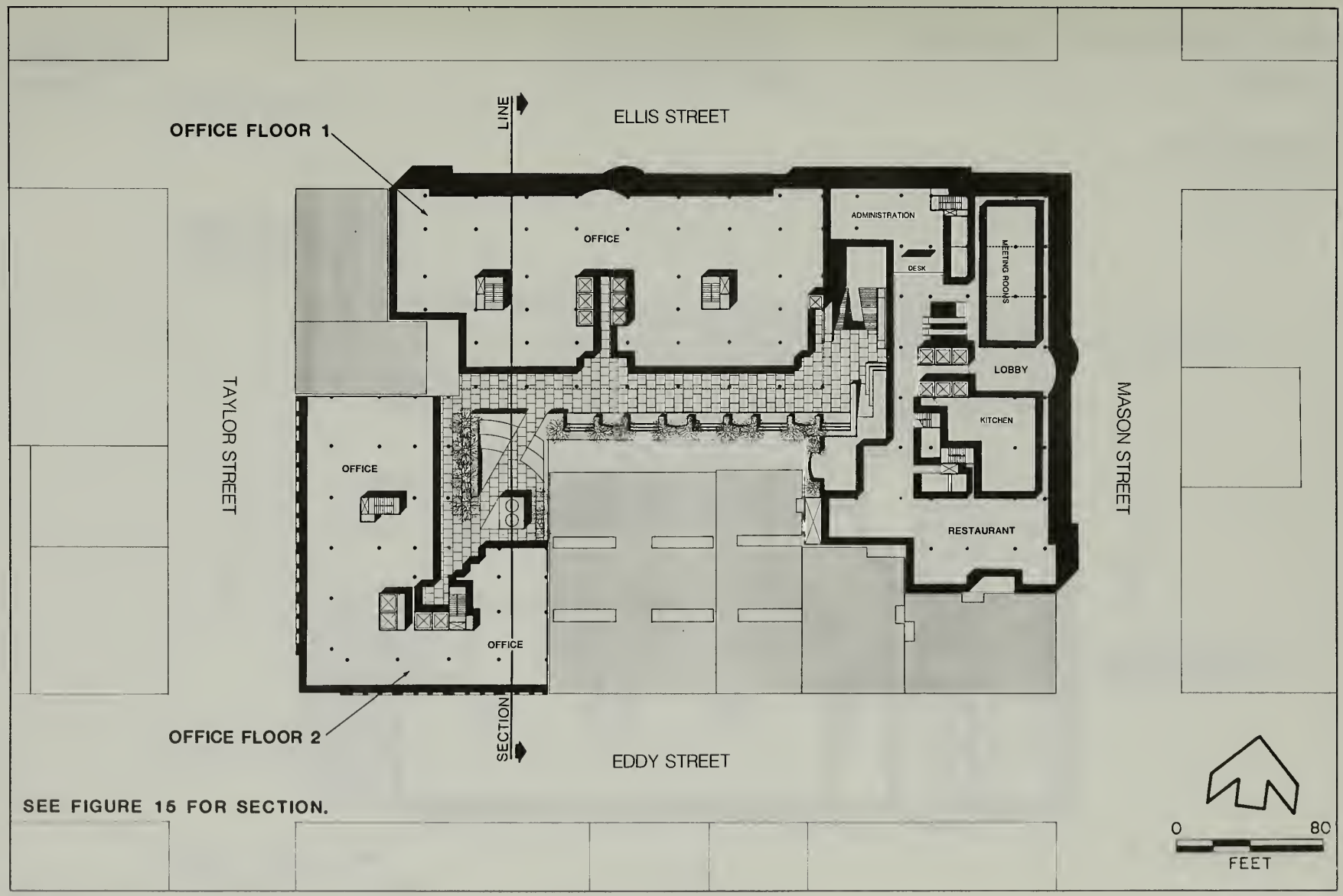
The 12,000-square-foot courtyard, located above the freight loading and service areas, is intended to be a focal point for the project and would serve as an entrance lobby to the office portions of the two towers. The Courtyard Level floor plan (see Figure 7, p. 21) shows the central landscaped courtyard, located one level above Ellis St. and two levels above Eddy St. The courtyard would be landscaped with large canopy trees, flowers, and grass, and would contain a variety of seating areas. The hotel lobby, main restaurant, and cocktail lounge would overlook the garden courtyard. The courtyard would be accessible to the public during daylight hours. Its design would provide light and air to the retained residential hotel buildings on the site. The towers, with their differing heights and stepped roof forms (see Figure 3, p. 14), would be situated to maximize the amount of direct sunlight in the courtyard.

Floor plans for the various levels of the Towers are shown in Figures 8 through 12, pp. 22 to 26.

MASON TOWER

The proposed Mason Tower would be a 24-story hotel building, 260 feet high, containing 455 hotel rooms. (See Mason St. elevation, Figure 13, p. 27.) The proposed hotel would cater primarily to traveling executives. Hotel guests arriving at either the Mason St. main entrance or at the porte-cochere on the ground level would be transported via elevator or escalator to the main lobby of the hotel on the courtyard level. The courtyard level (Figure 7, p. 21) would include the main lobby and front desk, administrative areas, meeting and banquet rooms, and the kitchen and dining facility.

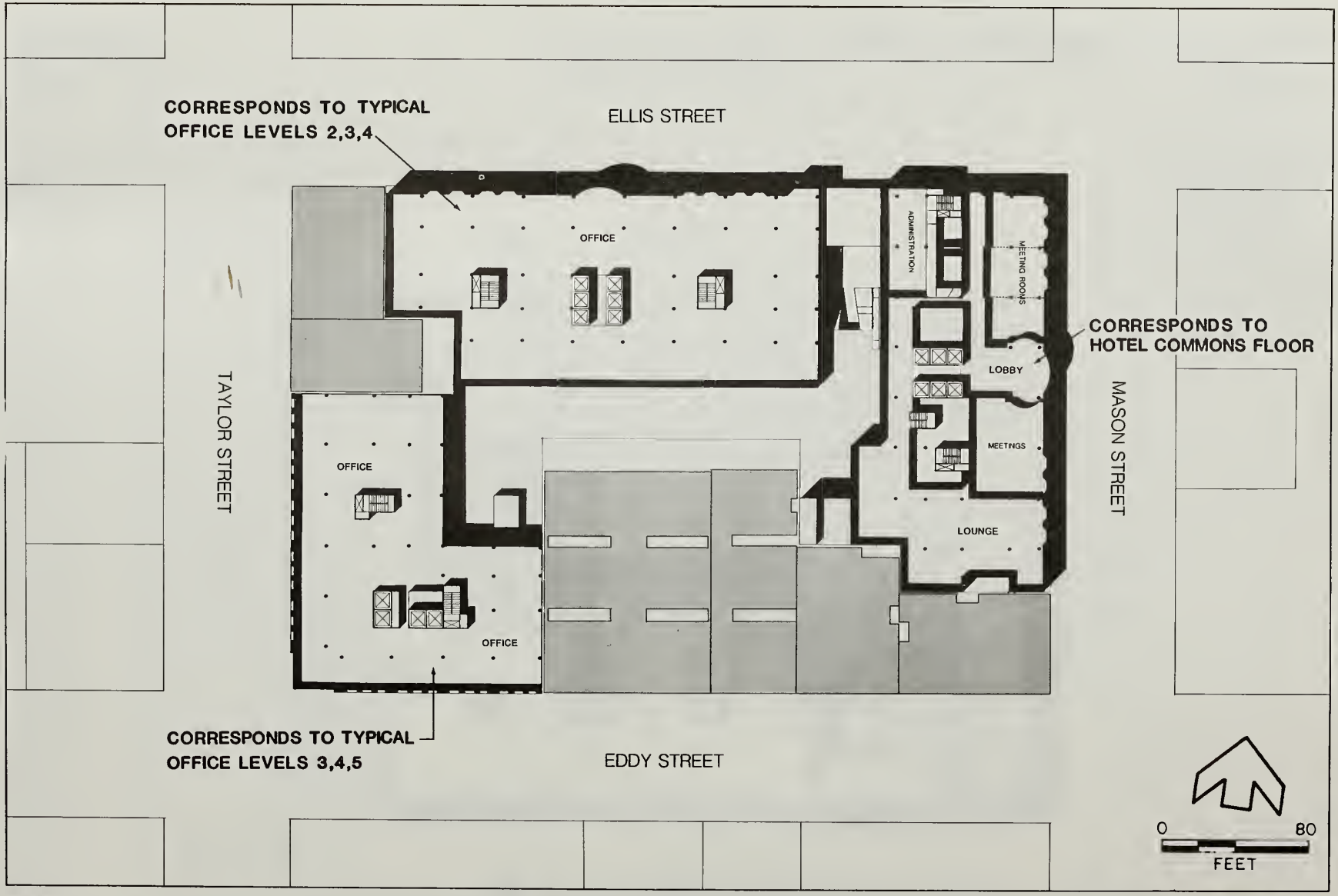
Most of the ground level would be devoted to various hotel functions serving arriving or departing guests. The conference areas would be located at the courtyard level and at the



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 7
Floor 3 - Courtyard Level Floor Plan



SOURCE
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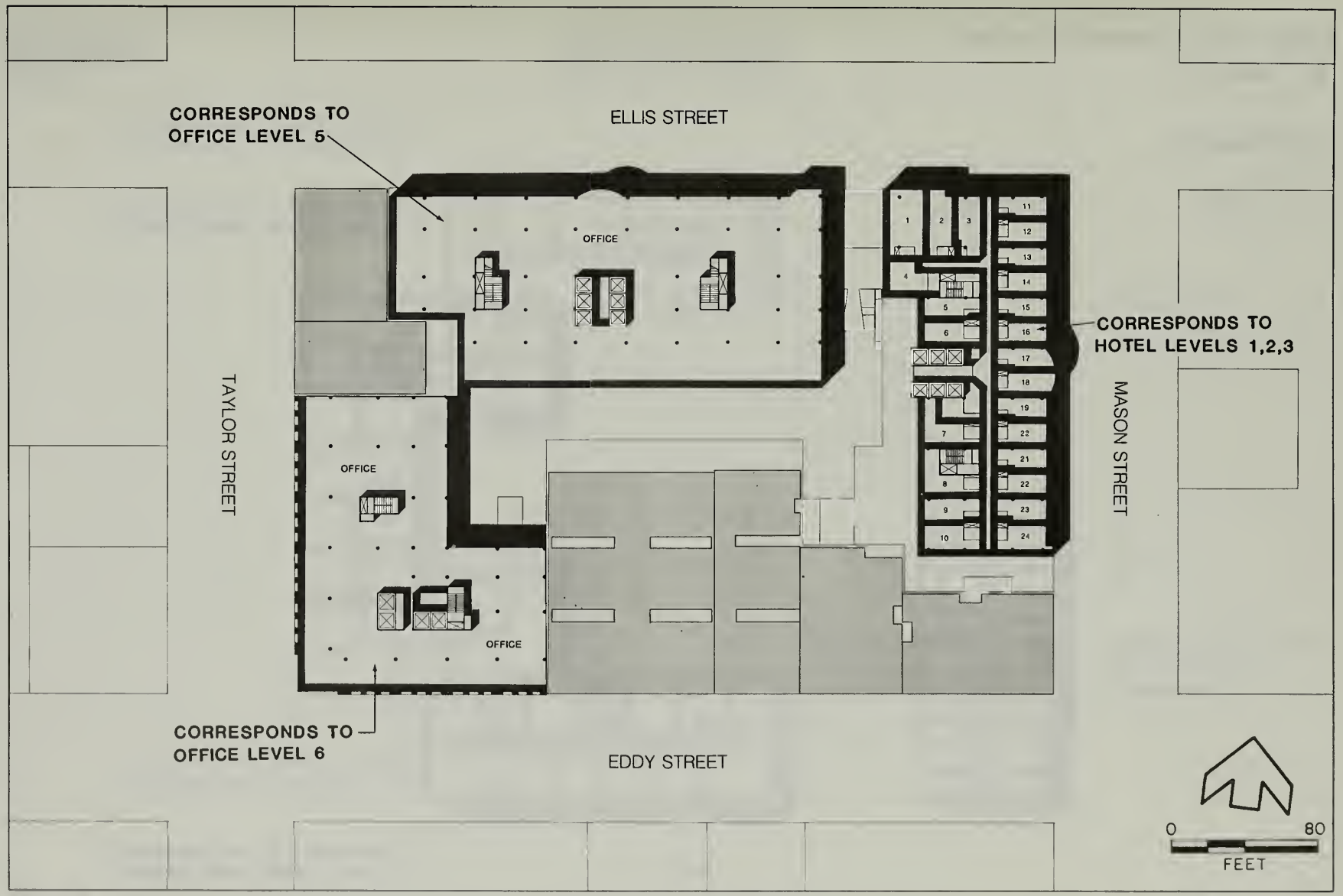
Block 331
MIXED USE DEVELOPMENT

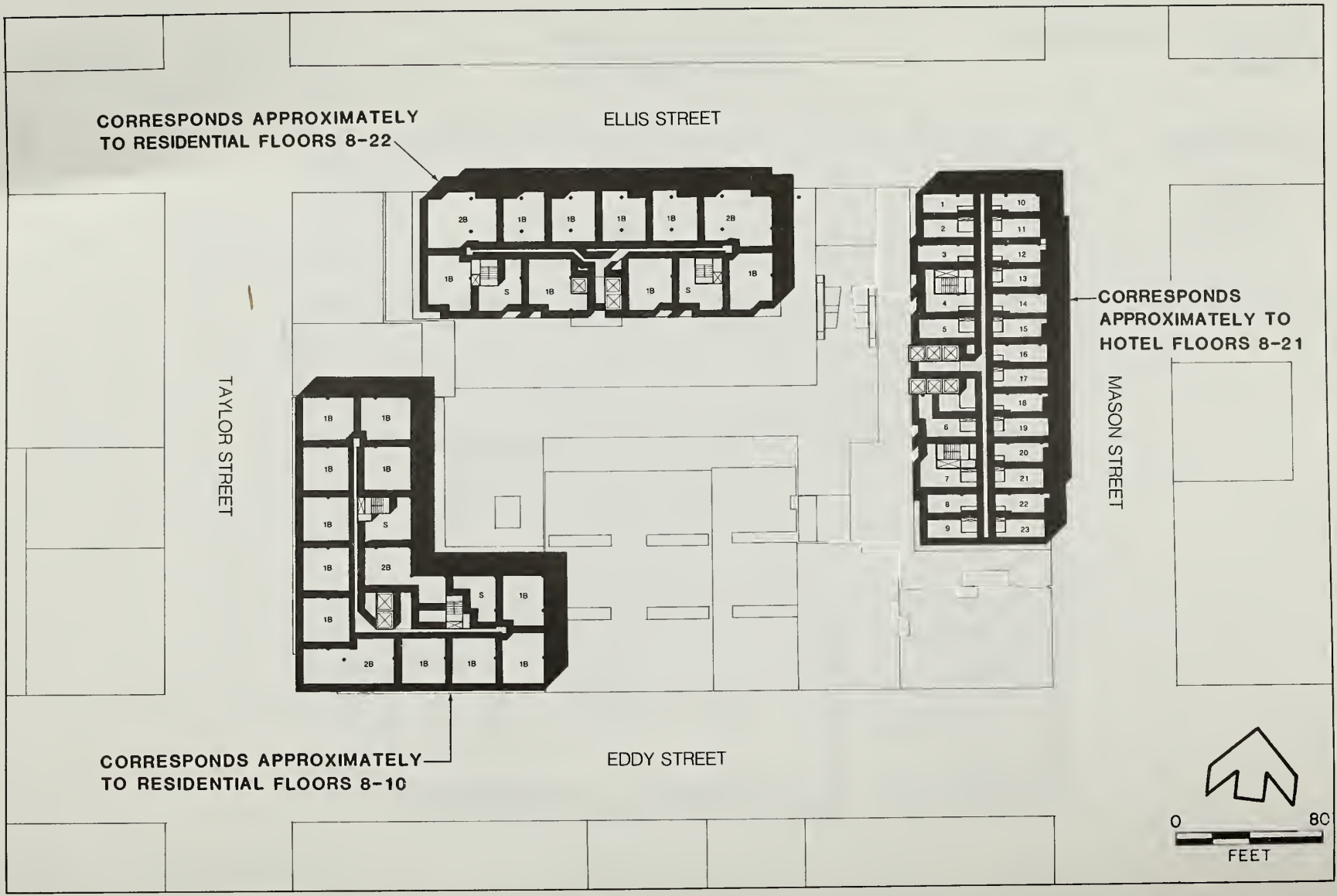
FIGURE 8
Office/Hotel Commons Floor Plan



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

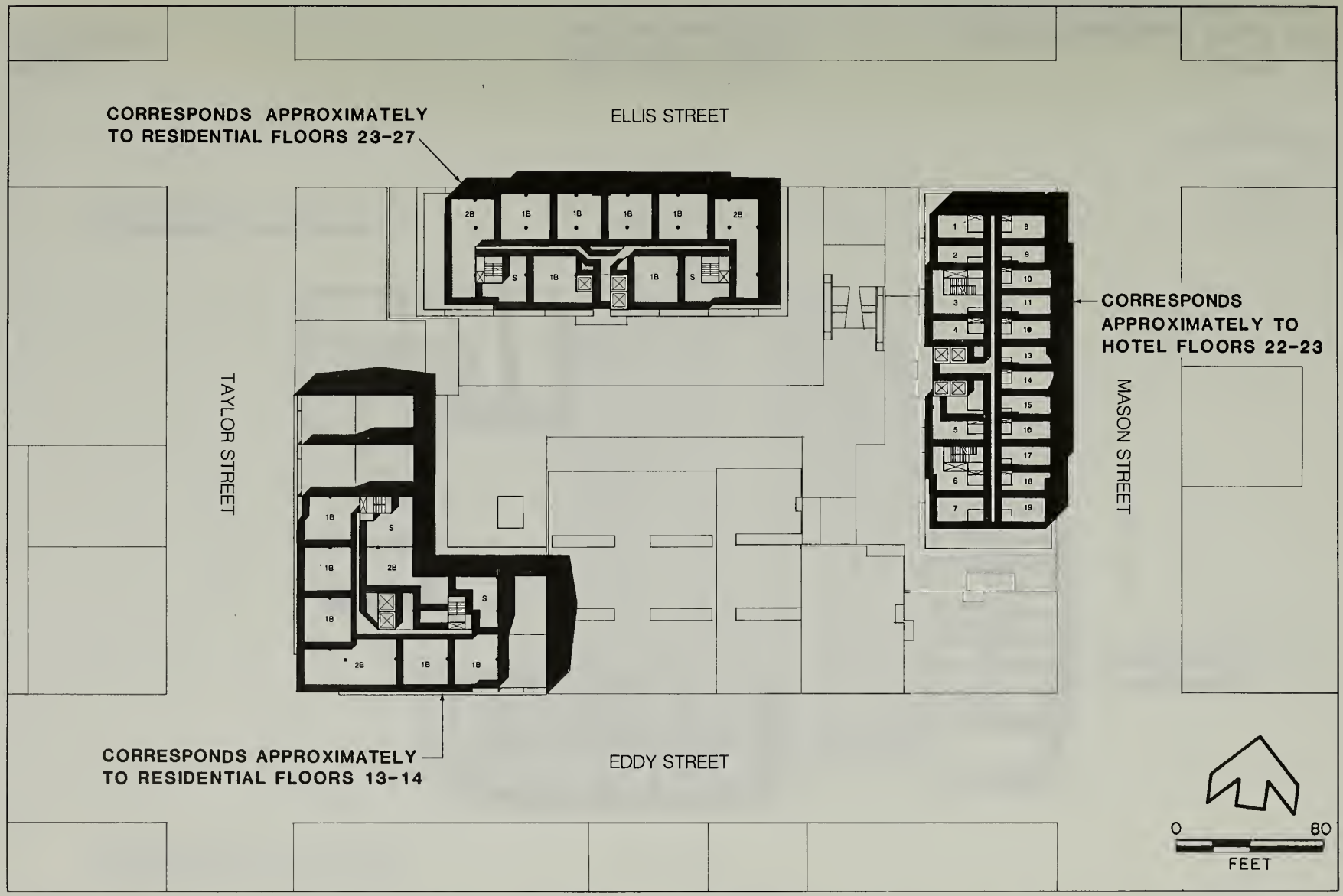
FIGURE 9
Office/Hotel Floor Plan



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

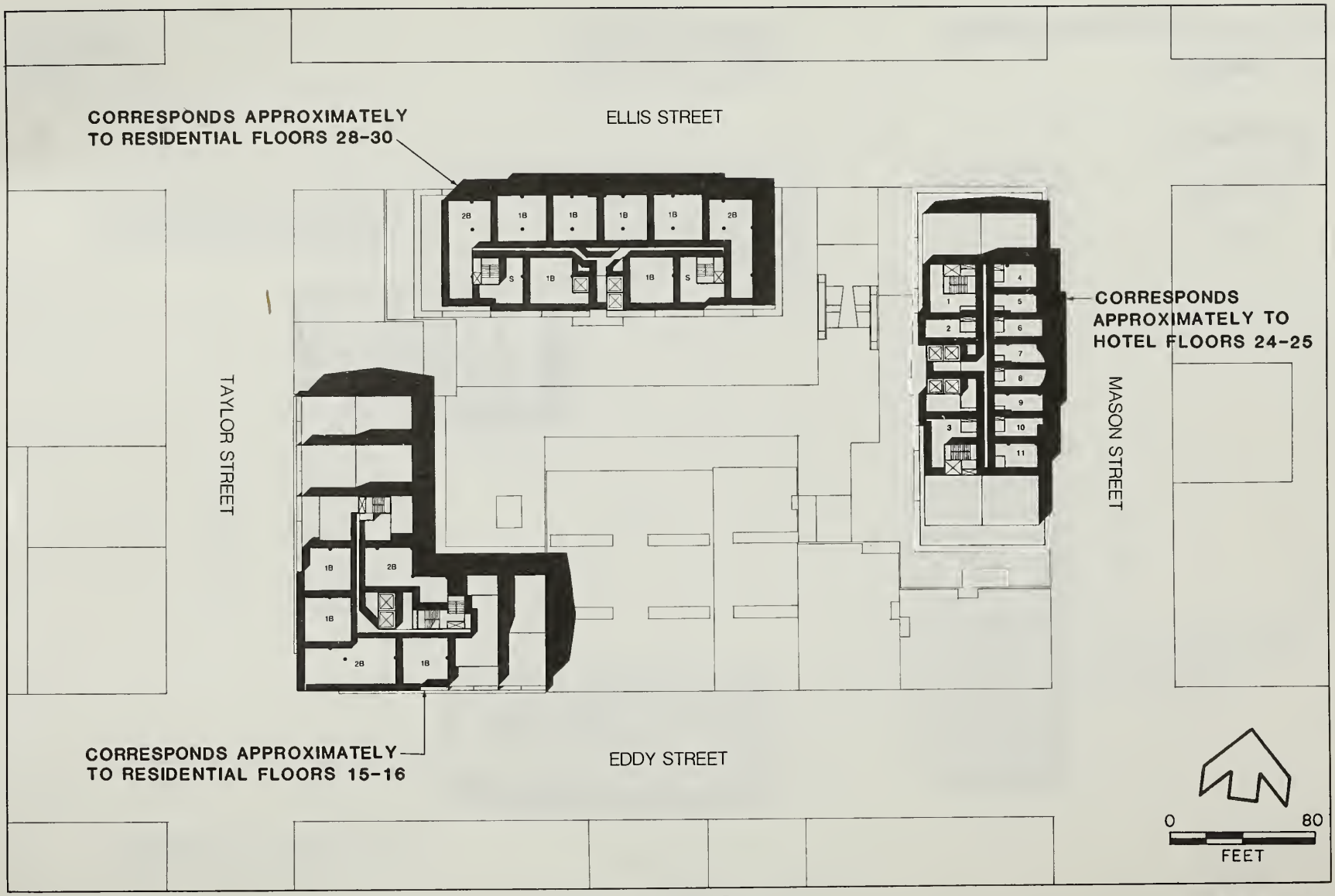
FIGURE 10
Lower Residential Floor Plan



SOURCE
Beland Glanelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

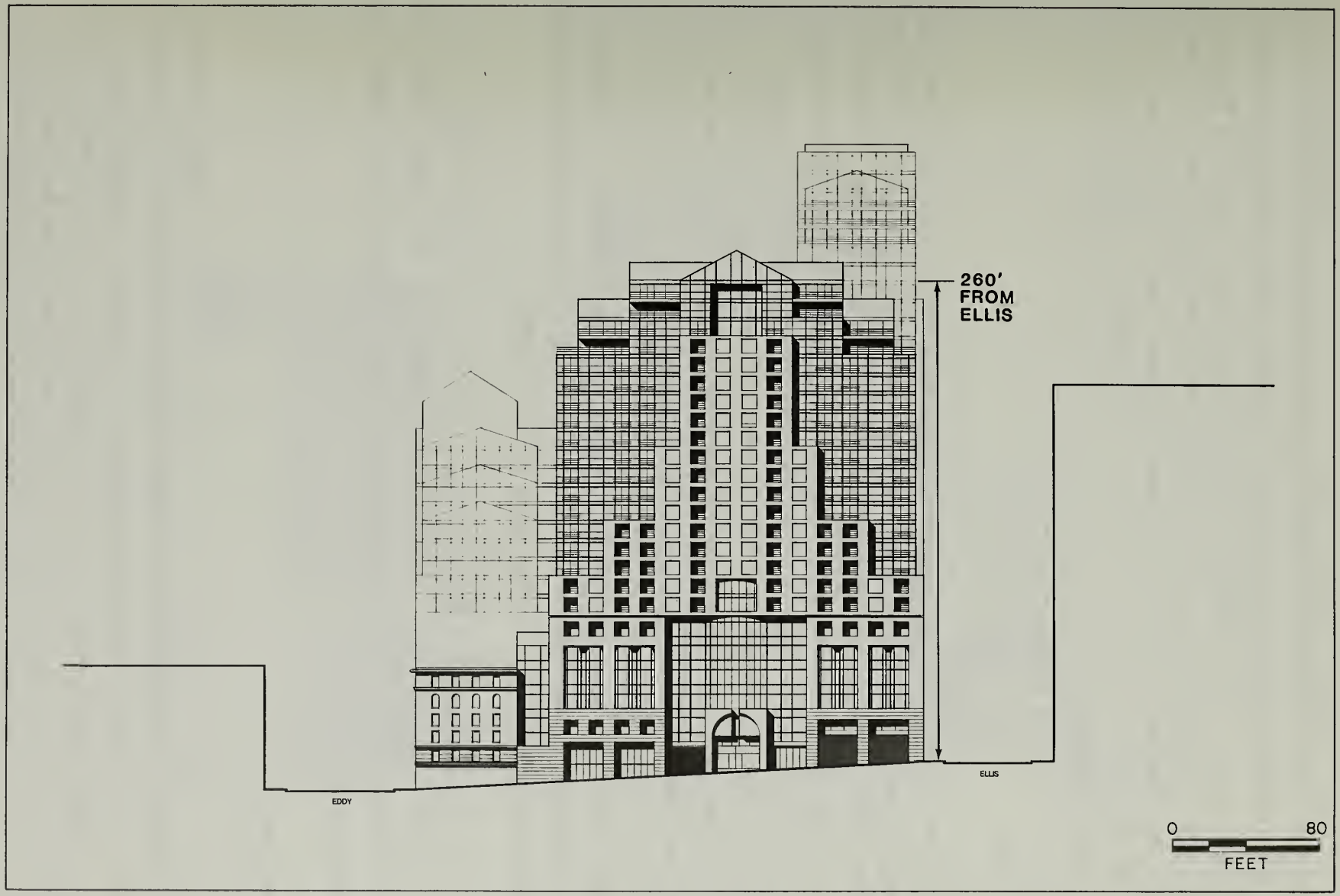
FIGURE 11
Middle Residential Floor Plan



SOURCE
Beland Glanelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 12
Upper Residential Floor Plan



SOURCE
Beland Glanelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 13
Mason Street Elevation

hotel commons level, which would be located one floor above the courtyard (see Figure 8, p. 22). Some retail/commercial space would be provided on the south end of the Mason Tower at ground level. It is anticipated that this space would be used for a restaurant although other functions could be accommodated. Above this ground-level retail space, but below the courtyard level, is a proposed mezzanine floor containing basic hotel service functions such as employee locker rooms, an industrial-size trash compactor and laundry storage facilities.

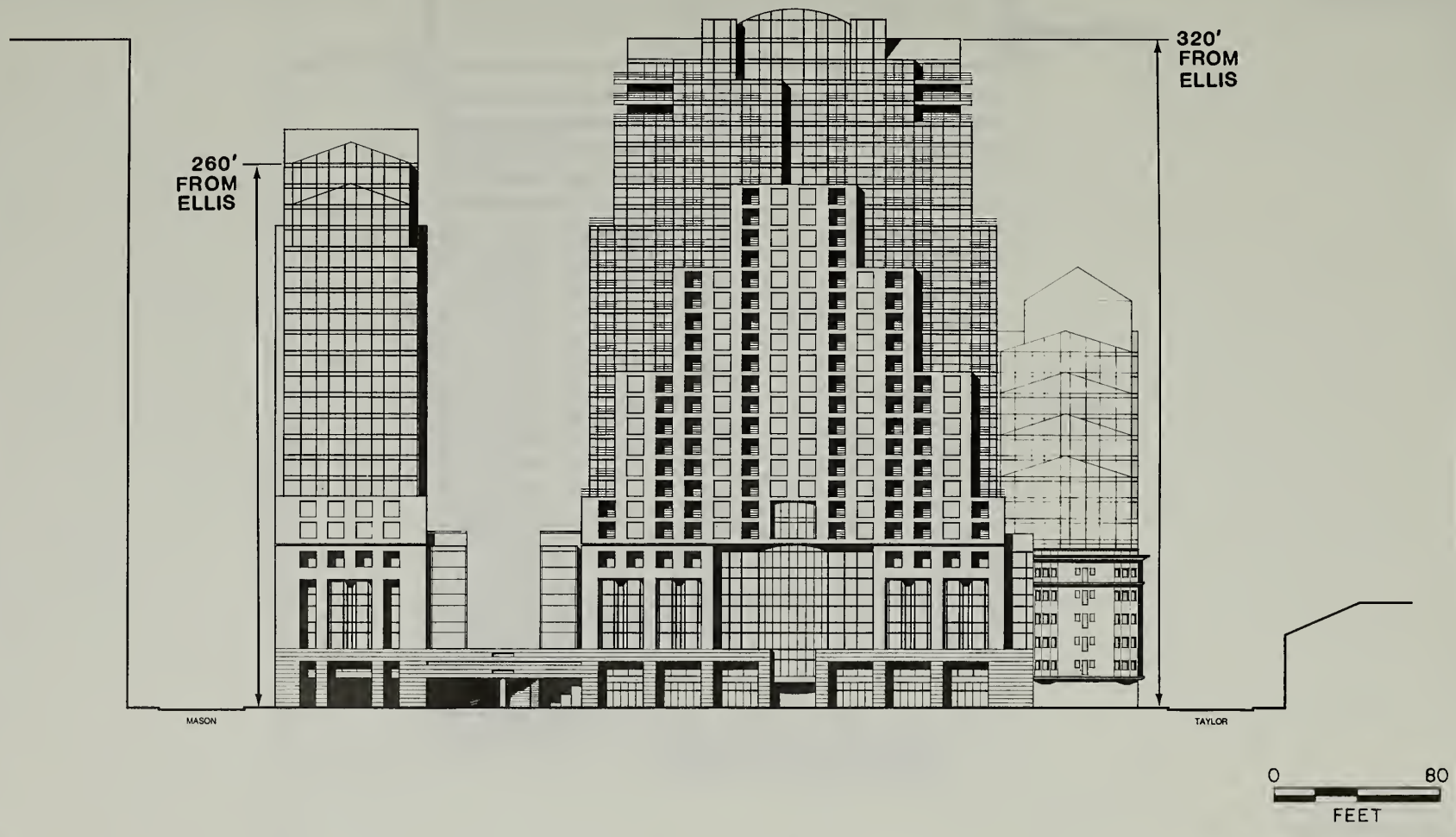
ELLIS TOWER

The Ellis Tower would be a 30-story mixed-use office/residential building, 320 feet high, containing approximately 120,000 square feet of office space and 270 condominium apartments. (See Ellis St. elevation, Figure 14, p. 29, and Section Looking East, Figure 15, p. 30. The Ellis St. frontage would have a ground-floor level one story higher than the Taylor Tower, because the elevation at the Ellis St. frontage is higher. The ground level would be occupied by the residential lobby, and street-oriented and neighborhood-serving retail shops. Each of the five office floors, one on the courtyard level and four levels above the courtyard, would contain between 17,000 and 24,000 gross square feet; the office lobby would be located at the courtyard level. Six elevators would serve the building, three to serve the office levels and three to serve the residential levels. The elevators, security system, and entrance lobby of the residential units would be completely separated from the retail space and office lobby.

The 270 residential units in the Ellis Tower would have an average living area of approximately 900 square feet. Approximately 50 (18%) of the units would be studios, 170 (64%) would be one-bedroom units, and another 50 (18%) would be two-bedroom units.

TAYLOR TOWER

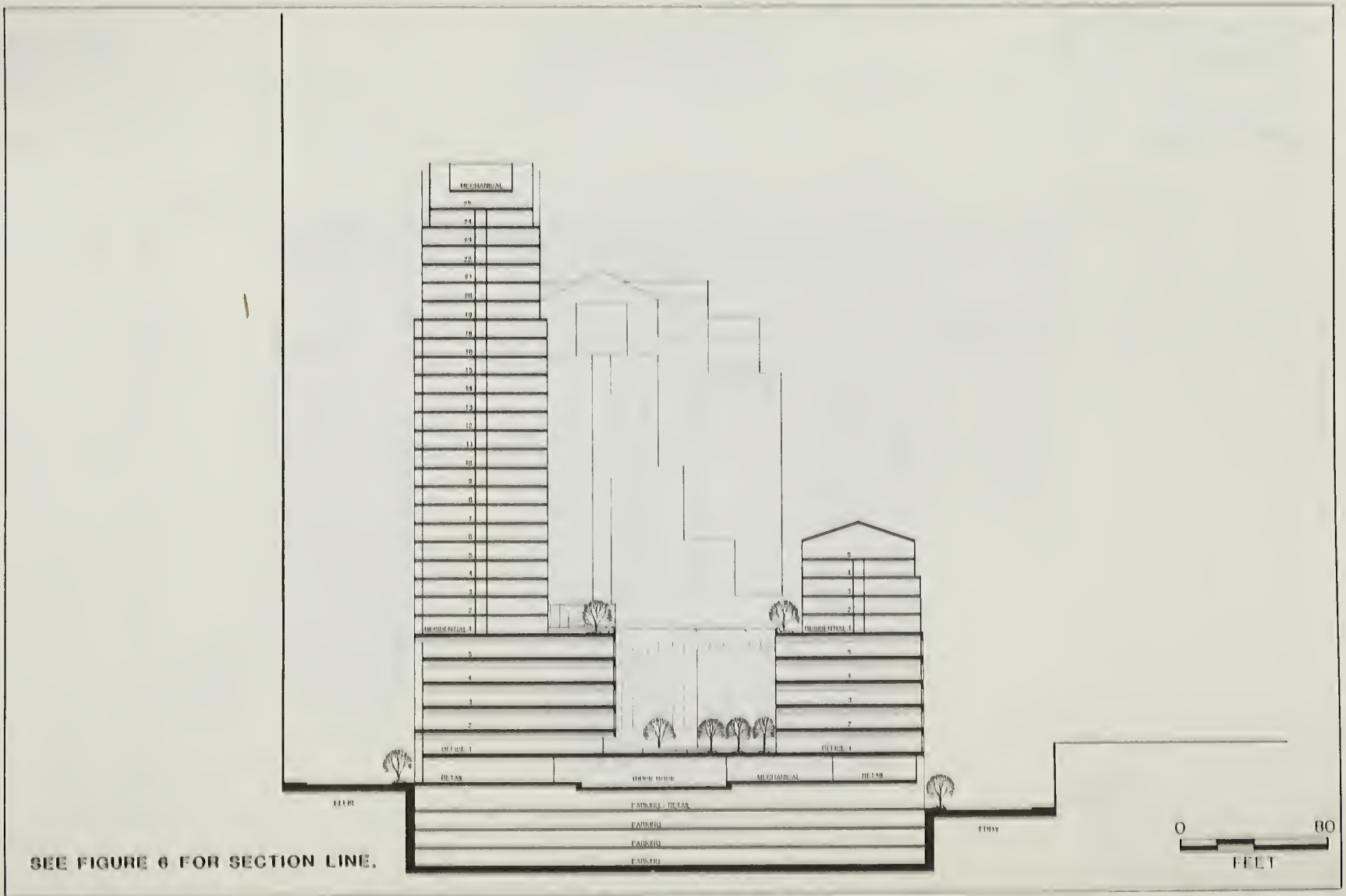
The Taylor Tower is proposed to be a 17-story, 190-foot building, providing office/residential uses: about 100,000 square feet of office and 100 condominium apartments. (See Taylor St. elevation, Figure 16, p. 31, and Eddy St. elevation, Figure 17, p. 32.) The Taylor Tower would have six office floors, each containing between 17,000 and 24,000 gross square feet; the office floors would be located at the one floor below the courtyard level, on the courtyard level, and four floors above the courtyard level. The office lobby would be located at the courtyard level. Because of the north-south slope of



SOURCE
Beland Glanelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 14
Ellis Street Elevation

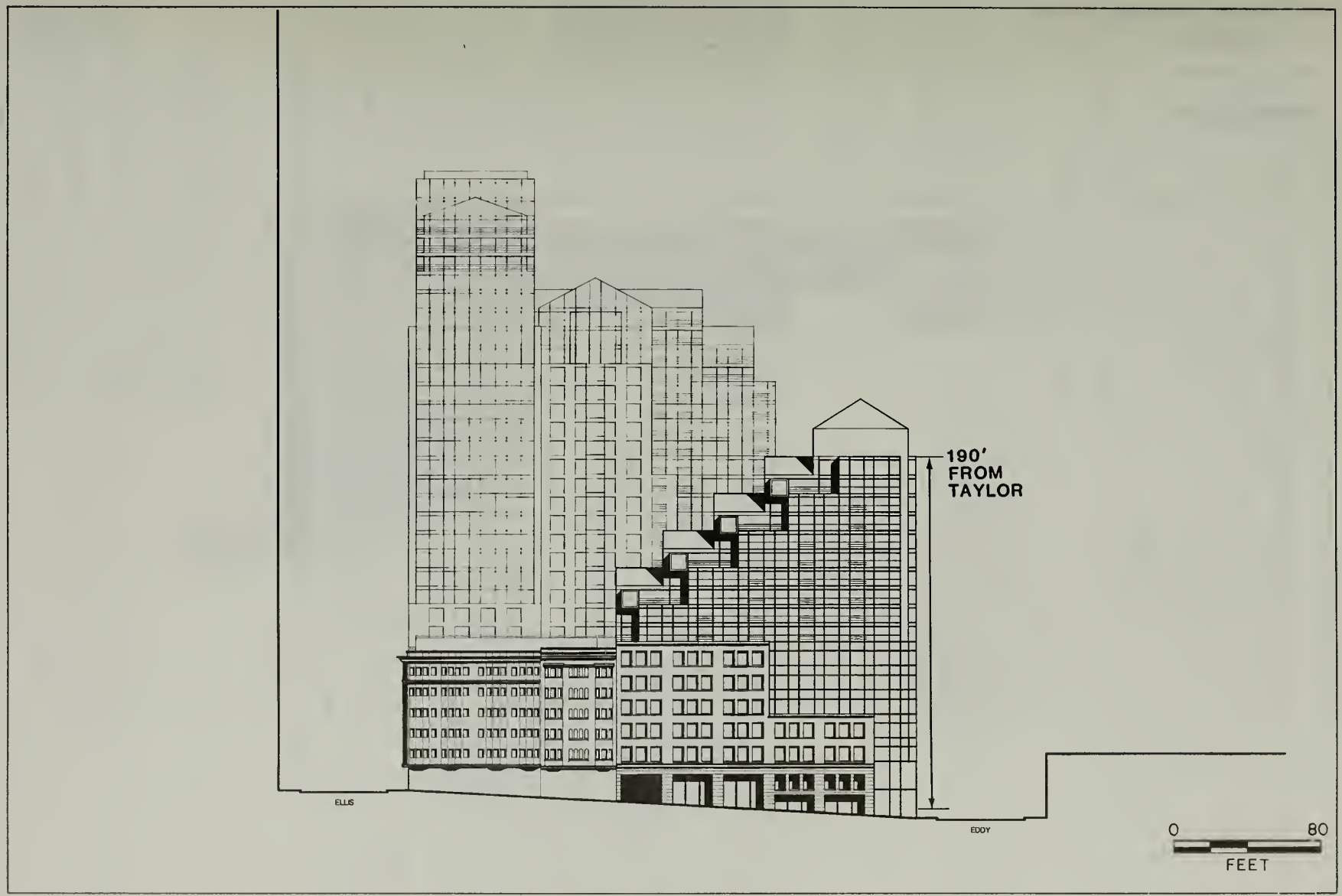


SEE FIGURE 6 FOR SECTION LINE.

SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

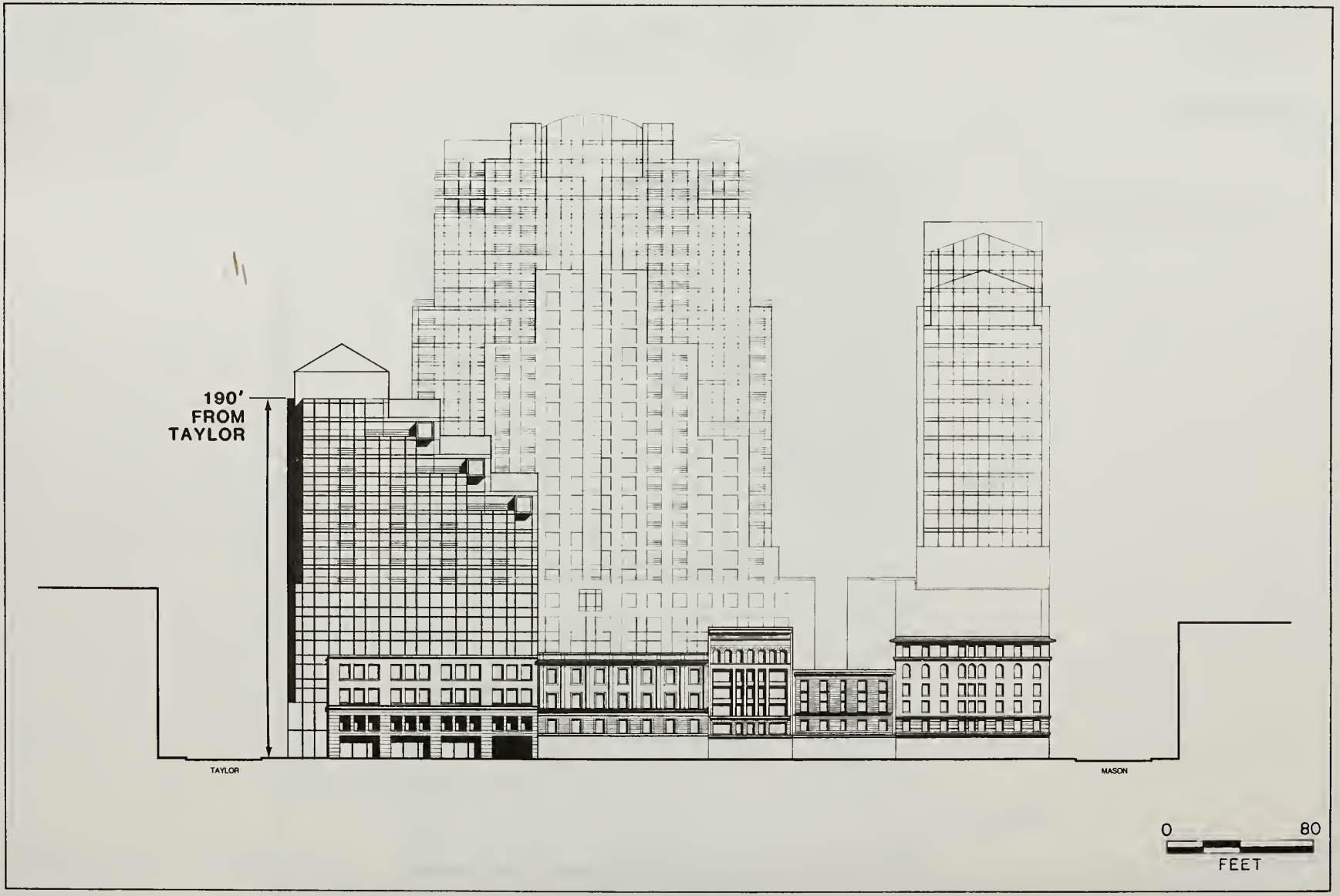
FIGURE 15
Section - Looking East



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 16
Taylor Street Elevation



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 17
Eddy Street Elevation

the site, the courtyard level is two floors above ground in this tower, as opposed to one floor above in the Ellis Tower. The ground level would be devoted to the residential lobby, and street-oriented and neighborhood-serving retail shops. Between the ground and courtyard levels would be an office floor. Four elevators would serve this building, two to serve the office levels, and two to serve the residential levels. As in the Ellis Tower, the Taylor Tower's two lobbies and elevator banks would be divided to provide separate service to its office and residential uses.

The 100 residential units would have an average living area of about 875 square feet. Approximately 20 of these units would be studios, 60 would be one-bedroom units, and 20 would be two-bedroom units.

REHABILITATION

A major part of this proposed project is the acquisition and rehabilitation of existing residential hotels and apartment buildings on the project block. Two residential hotels on the project block, Crystal (130 Eddy St.) and Empress (144 Eddy St.) and the Hotel Zee (141 Eddy St.) located off-site on Lot 18, Assessor's Block 340, would be purchased by the sponsor and rehabilitated. The residential hotels would then be returned to use, providing low-income residential hotel units. The three hotels would provide a total of about 260 completely refurbished residential hotel rooms. The two apartment buildings, the El Don (240 Taylor St.) and 250 Taylor St., contain a total of about 60 studio apartments, which would be purchased by the sponsor, rehabilitated and placed in use as low-income residential apartments. These buildings would be owned by the sponsor and managed by housing projects within the guidelines of the HUD Section 8 program as supplemented by an Affirmative Fair Housing Marketing Plan. The sponsor would, upon request, negotiate a covenant with the proper City agency to keep these units in the low-income housing stock of the proposed North of Market Mixed Use District.

D. PROJECT SCHEDULE AND COSTS

The environmental review and project design approval are scheduled by the project sponsor for completion by mid-1983. Following approval of permits, site clearance, excavation, and dewatering would require about three months; foundations about four months, building construction about 17 months; and finishing about six months. The

construction period would last about 30 months (2-1/2 years) and initial occupancy is projected for mid-1986. Construction costs are estimated at about $72 million (1982 dollars).

The new construction would occur in one phase. Rehabilitation would occur on a building-by-building basis, thus providing temporary housing for displaced residents as buildings are being rehabilitated.

The project sponsor has estimated (in 1982 dollars) the following prices and costs for the new and rehabilitated uses./1/ For the new uses: office space would lease for $22 per square foot per year; Mason Tower hotel room rates would be $90 per day; market-rate dwelling units would sell for about $255 per square foot, the price range for the dwelling units being about $151,800 to about $253,000 (the average price would be about $225,900); and new retail space would rent for $18 per square foot per year. Parking rates would vary, depending on whether the user was a resident in one of the towers or a hotel guest. For rehabilitated uses: residential hotel rooms would rent for about $150 per month per room, rehabilitated residential apartments would rent for about $275 per month per apartment, and rehabilitated commercial space would be leased at about $12 per square foot per year.

E. REQUIRED PROJECT APPROVALS

In May 1981, the North of Market Planning Coalition (NOMPC) submitted zoning reclassification applications (81.254 EZ and 81.505 EZ) for the Tenderloin area. The Coalition proposes reclassification of the site from C-3-G (Downtown General Commercial) to RC-4 (Residential-Commercial Combined High Density) district and an 80-X height and bulk district (80-foot height limit; no bulk limits apply). The City Planning Commission has not yet taken action on the NOMPC rezoning proposal; however, the Planning Commission also initiated action to reclassify the site to RC-4, without the 80-foot height limit. While a zoning reclassification is pending, any development proposal must comply with both existing and proposed zoning. In the event of a conflict, the more restrictive provisions apply. Therefore, under interim controls, the more restrictive conditions between the C-3-G and RC-4 districts govern development of the site. To approve the project under the current interim development controls, the Planning Commission would be required to implement the following actions:

(1) Disapprove the NOMPC zoning reclassification application proposing the 80-X height limit.

(2) Implement Conditional Use authorization for the proposed hotel use in an RC (residential) district. (Section 209.2(e), City Planning Code)

(3) Implement Conditional Use authorization for height above 40 feet in an R district. (Section 263, City Planning Code)

(4) Implement Conditional Use authorization for office space above the ground floor in an RC district. (Section 209.8(b), City Planning Code)

(5) Implement Conditional Use authorization for a Planned Unit Development (PUD) to allow increased floor area ratio (7:1 FAR), thus allowing 760,974 square feet of non-residential (commercial) space. (Section 304, City Planning Code)

(6) Implement Conditional Use authorization for a PUD to allow flexibility in design of rear yard requirements. (Section 304, City Planning Code)

The project sponsor also intends to request floor area premium totaling about 12,415 square feet as provided for in Section 125 of the City Planning Code (see Table 2, p. 36). The floor area premiums added to the project site would represent about 108,700 square feet.

Following a public hearing before the City Planning Commission, responses to all written and oral comments on this Draft EIR will be prepared; the Draft EIR will be revised as appropriate. Any revisions to the Draft EIR and the Draft Summary of Comments and Responses would be presented to the City Planning Commission for review as a basis for certification of the Final EIR.

After certification of the Final EIR, the Planning Commmission would hold a public hearing for Conditional Use authorization (pursuant to Section 303 of the City Planning Code) and discretionary review of the project (pursuant to the Commission's Resolution 8474)./2/

The Planning Commission would review the project's design and environmental context in detail, and pass a motion approving, approving with conditions, or disapproving the project. Mitigation measures included in the EIR can be used as conditions for approval of the project. Should approval be granted by the City Planning Commission or by the Board of Permit Appeals on appeal, the project sponsor would obtain a demolition permit from the Central Permit Bureau of the Department of Public Works, followed by a building permit or permits administratively approved for compliance with fire, electrical, building and other pertinent City codes.

TABLE 2: ALLOWABLE FLOOR AREA PREMIUMS FROM SECTION 125 OF THE CITY PLANNING CODE

Feature	Floor Area Premium Square Feet
Corner Bonus (Mason and Ellis Streets)	3,905
Corner Bonus (Taylor and Eddy Streets)	3,905
Corner Bonus (Taylor and Ellis Streets)	3,905
Interior (Through) Lot (Lots 10, 11 and 15)	125
Interior Lot (Lots 8 and 16)	450
Interior Lot (Lots 3 and 4)	125
TOTAL PREMIUMS	12,415
PROJECT SITE AREA	96,284
TOTAL FLOOR AREA RATIO BASIS*	108,699

* The total floor area ratio basis is the sum of the premiums and the project site area.

SOURCE: Whisler-Patri Architects

NOTES - Project Description

/1/ Information on estimated prices of new and rehabilitated uses provided by Theme Resorts, Inc., Dr. Leslie Jacob, telephone conversation, October 15, 1982.

/2/ San Francisco City Planning Commission, Resolution No. 8474, adopted January 17, 1980, and extended by Resolution No. 8982, adopted June 4, 1981, requiring Discretionary Review for all projects proposed in the C-3 district.

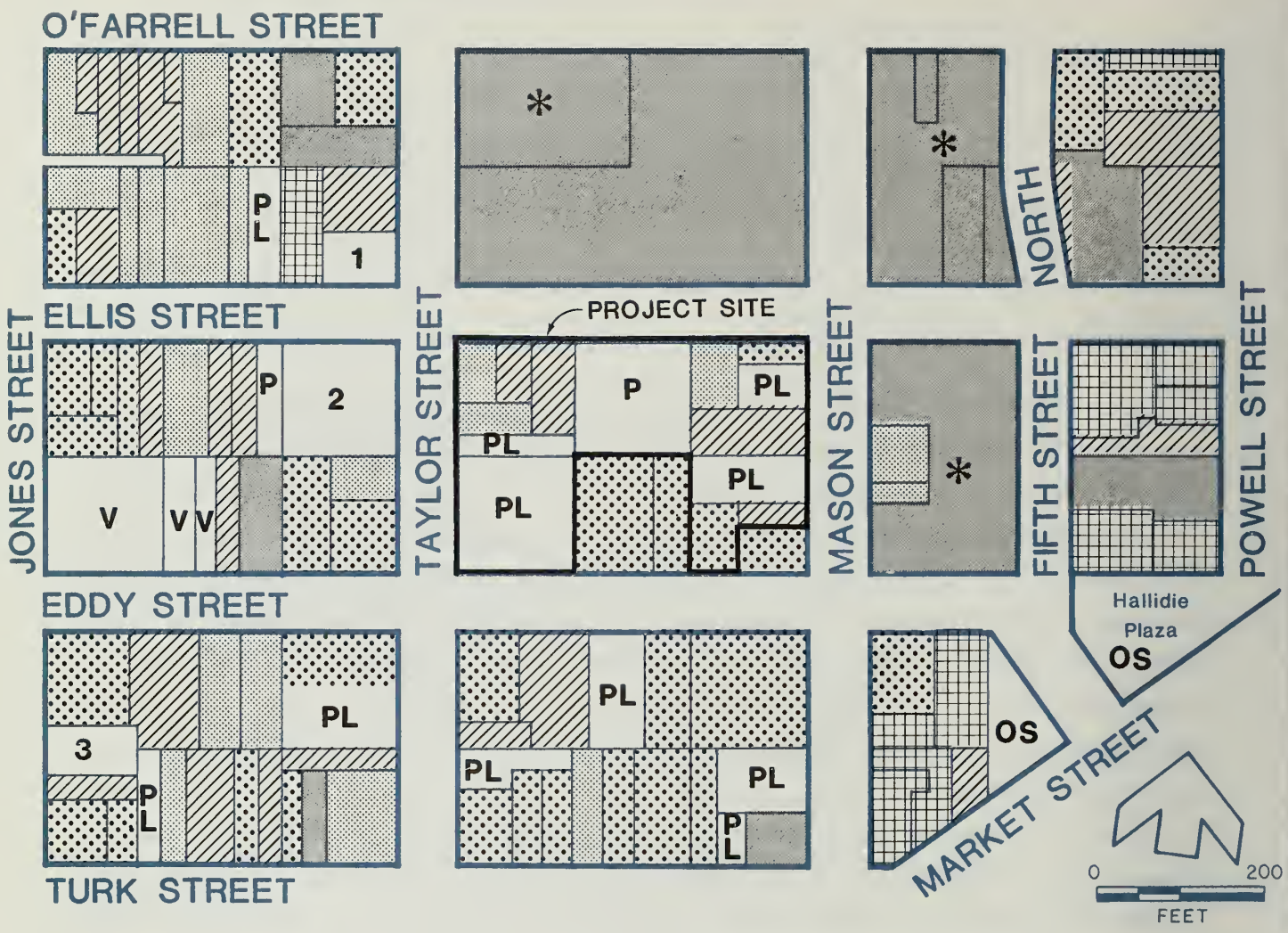
III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

LAND USE

The project block is covered by several parking lots, a parking garage, and commercial and residential (including residential hotel) buildings. Uses along Ellis St. include a two-story building occupied by a retail store and a dance studio, a one-story Bank of America building, the two-story Flood Garage (with approximately 290 parking spaces) with three retail stores at street level, and a three-story building containing the San Francisco Health Club and six apartments. At the corner of Ellis and Mason Sts. is the three-story Diamond Hotel, containing 28 residential hotel rooms and a coffee shop at street level. South of this, along Mason St., is a vacant lot used for parking (approximately 20 spaces), a one-story building with two retail stores, another parking lot (approximately 50 spaces), and a one-story adult theater. The six-story Mason Hotel, containing 65 residential hotel rooms, is at the corner of Mason and Eddy Sts. West of this, along Eddy Street, are the four-story Crystal Hotel (containing 42 residential hotel rooms), the six-story Empress Hotel (containing 90 residential hotel rooms) and the four-story William Penn Hotel (containing 110 residential hotel rooms). These hotels have some commercial uses at street level. There is a 60-space parking lot at the corner of Eddy and Taylor Sts.; adjacent to this, on Taylor St., are two six-story apartment buildings containing a total of 62 residential units. Figures 18 and 19, on pp. 38 and 39, show the land uses and the heights of the buildings, respectively, within and surrounding AB 331. Table 3, p. 40 identifies, in detail, the existing uses and lot sizes on AB 331.

The uses in the blocks surrounding Assessor's Block 331 are mixed. (See Figure 2, p. 13 for Assessor's Block locations.) To the north and east of the site are generally more-intensive existing uses, and existing and approved tourist hotel projects. The Hilton Hotel, Hilton Tower, and the site of the recently approved Hilton Tower No. 2 are opposite the site to the north on Ellis St. (Assessor's Block 325). Diagonally across from the site, at the northeast corner of Ellis and Mason Sts., is the site of the recently approved Holiday Inn (portion of Assessor's Block 326). To the east of AB 331, across Mason St., is the site of the 32-story Ramada Hotel (Assessor's Block 330), now under construction. To the south



LEGEND

- Residential Hotel
- Residential
- Tourist Hotel
- Office

NOTE: Above uses usually with ground floor retail, entertainment, personal service

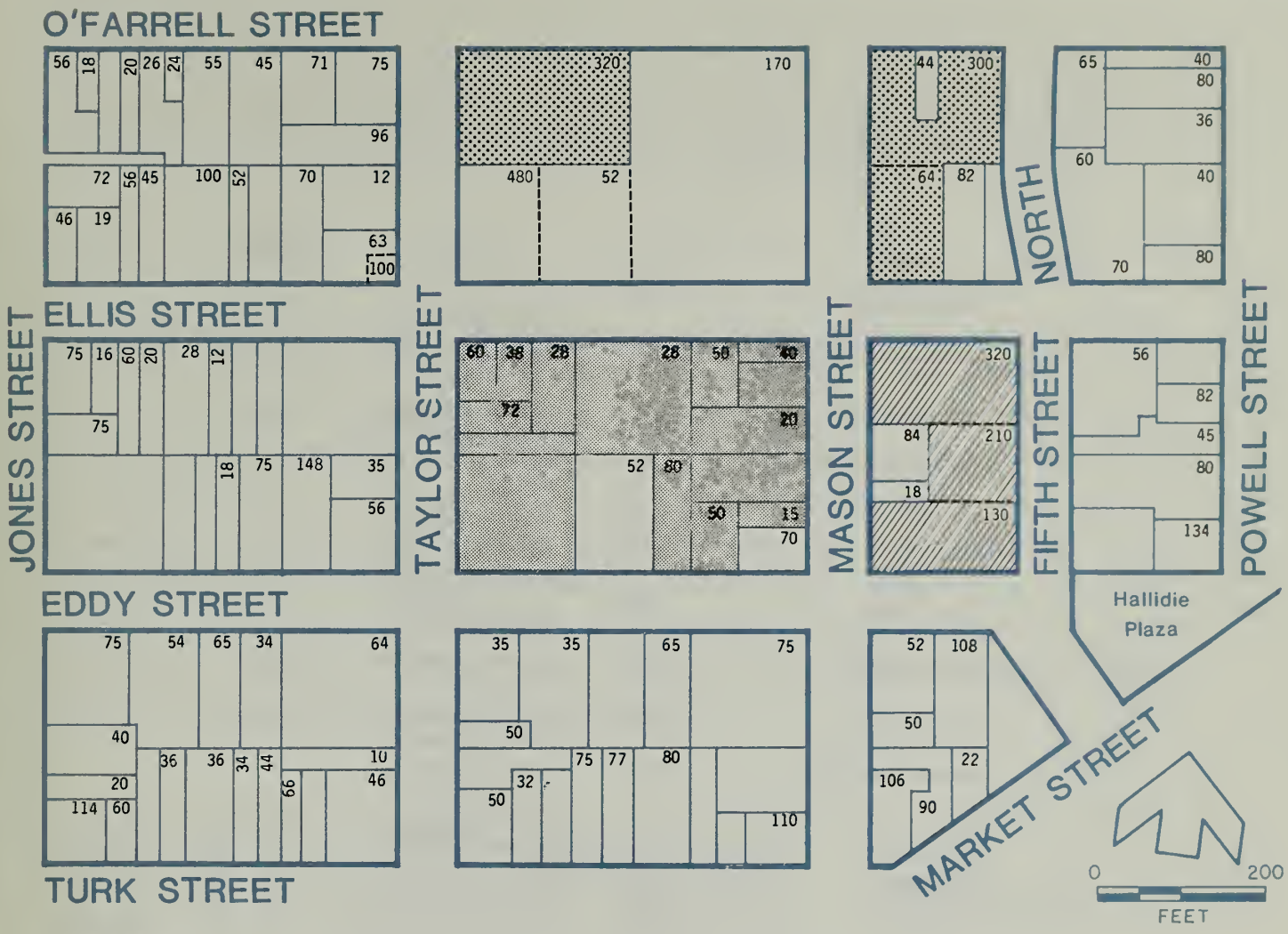
- Retail, Entertainment, Personal Service
- * Approved or Under Construction

- OS Open Space
- V Vacant Lot
- P Parking Structure
- PL Parking Lot
- 1 Glide Memorial Church
- 2 Airporter Bus Terminal
- 3 Musician's Union Building

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 18
Major Land Uses in the Project Vicinity



LEGEND

- Project Site
- Under Construction
- Approved New Development

NUMBERS INDICATE BUILDING HEIGHTS IN FEET. NO NUMBER INDICATES VACANT LOT.
SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 19
Building Heights in the Project Vicinity

TABLE 3: EXISTING USES ON AB 331

Lot No.	Building	Lot Area*	Improvements	Proposed Action**
1	Diamond Hotel	2,270	3-story, 28 units residential hotel	D
1A	San Francisco Health Club	4,540	4-story bldg, with 6 apt. units	D
2	Parking Lot	4,540	used as parking lot 1-story bldg., 2 retail	D
3	Stores, Parking Lot	7,560	stores; 1/3 of lot for parking	D
4	Parking Lot	7,910	used as parking lot	D
5	Chez Paree	2,060	1-story brick bldg.; adult movie theatre	D
6	Mason Hotel	4,540	6-story residential; hotel; 65 rooms	***
7	Crystal Hotel	4,400	4-story residential hotel 42 rooms	R
8	Empress Hotel	6,290	6-story residential hotel; 90 rooms,	R
9	William Penn Hotel	12,620	4-story residential hotel; not part of project	***
10	Parking Lot	18,910	used as parking lot	D
11	Parking Lot	3,440	used as parking lot	D
12	El Don	3,500	6-story, 22 apt. units cover 2/3 of lot	R
13	250 Taylor	3,620	6-story, 40 apt. units	R
14	281 Ellis	2,720	2-story bldg. containing 2 retail stores	D
15	Bank of America	5,620	1-story concrete bldg. processing support dept.	D
16	Flood Garage	18,910	3-level concrete parking garage some retail stores	D

Additional information:

Total lots affected: 15; total lot area affected: 96,284 square feet

* In square feet; rounded to nearest 10.
** D = to be demolished; R = to be rehabilitated
*** The William Penn and Mason hotels are not part of the project site.

Also to be rehabilitated: Hotel Zee on Lot 18, Block 340, with a lot area of about 7,000 square feet; the Hotel Zee is an 8-story building with 125 rooms.

SOURCE: Theme Resorts, Inc.

and west are a variety of uses that are primarily neighborhood uses: churches, residential, residential hotels, small offices, and neighborhood retail stores.

ZONING

The C-3-G, Downtown General Commercial District, (see Figure 20, below) permits a variety of uses: hotels, retail, offices, entertainment, clubs and institutions, and high-density residential developments. The basic permitted Floor Area Ratio (FAR) for buildings in a C-3-G District is 10:1. Under a bonus system established by Section 126 of the Planning Code, additional space is permitted for certain features; however, an interim amendment to this code section enacted by the Board of Supervisors (Ordinance 240-80, June 1, 1980) limits the application of bonuses to hotels and residential uses only. In addition, all proposed developments in Downtown C-3-zoned districts require Discretionary Review by the City Planning Commission (Resolution 8474, January 17, 1980) before approval of a building permit.

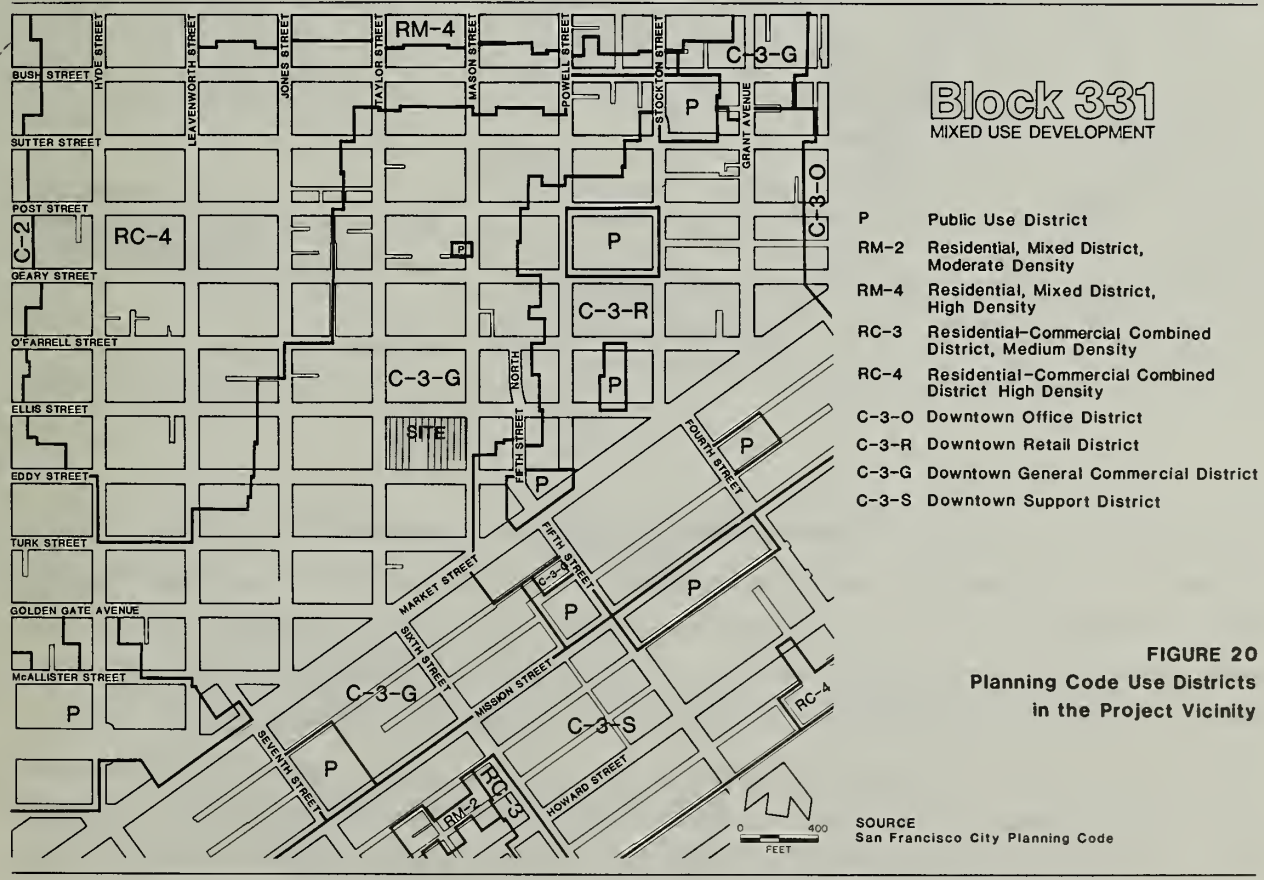
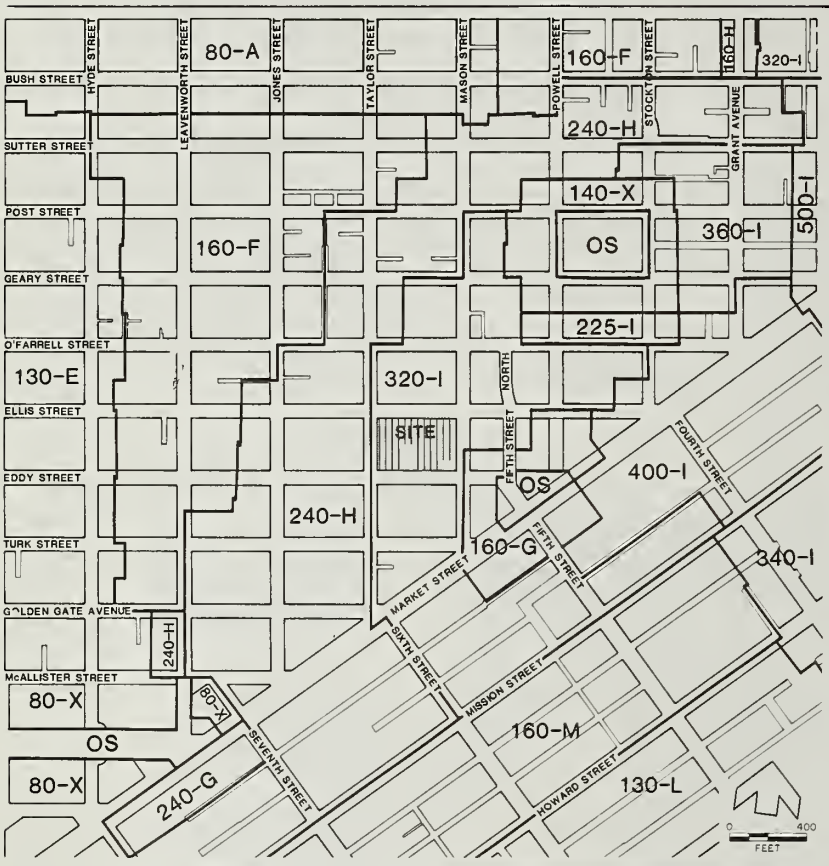


FIGURE 20
Planning Code Use Districts in the Project Vicinity

SOURCE
San Francisco City Planning Code

The site is in a 320-I Height and Bulk District, with a maximum permitted height of 320 ft. (See Figure 21, below.) Above a height of 150 feet, the maximum permitted horizontal diagonal dimension is 200 feet, and the maximum permitted building length is 170 feet.



Block 331
MIXED USE DEVELOPMENT

HEIGHT AND BULK DISTRICTS	HEIGHT LIMIT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
500-I	500'	150'	170'	200'
400-I	400'	150'	170'	200'
360-I	360'	150'	170'	200'
340-I	340'	150'	170'	200'
320-I	320'	150'	170'	200'
240-H	240'	100'	170'	200'
240-G	240'	80'	170'	200'
225-I	225'	150'	170'	200'
160-M	160'	100'	250'	300'
160-G	160'	80'	170'	200'
160-F	160'	80'	110'	140'
140-X	140'	BULK LIMITS NOT APPLICABLE		
130-L	130'	80'	250'	300'
130-E	130'	65'	110'	140'
80-A	80'	40'	110'	125'
80-X	80'	BULK LIMITS NOT APPLICABLE		
OS	CONFORMITY WITH OBJECTIVES, PRINCIPLES AND POLICIES OF THE MASTER PLAN			

FIGURE 21
Planning Code Height and Bulk Districts in the Project Vicinity

SOURCE
San Francisco City Planning Code

In May 1981, the North of Market Planning Coalition (NOMPC) submitted a rezoning proposal for the Tenderloin area, as provided for in Section 302 of the City Planning Code. The project site is in the NOMPC's proposed Core Tenderloin Special Use District, where the NOMPC proposal recommends a height limit of 80 ft. and a reclassification from C-3-G to RC-4 (Residential-Commercial Combined, High Density) district. While a rezoning application is pending, any development proposal must comply with both existing and proposed zoning. In the event of a conflict, the more restrictive provisions apply (see Table 4, p. 43). In this case, the RC-4 district is generally more restrictive than C-3-G. The City Planning Commission has not yet taken action on NOMPC's rezoning proposal.

TABLE 4: INTERIM ZONING CONTROLS AFFECTING DEVELOPMENT OF BLOCK 331

CATEGORY	Planning Code Use District STANDARDS	
	C-3-G (Existing Classification)	RC-4 (Proposed Reclassification)
Floor Area Ratio	10:1	4.8:1*
Housing Density	1 unit/125 sq. ft. of lot area	1 unit/200 sq. ft. of lot area
Residential Hotels	P	CU
Transient Hotels	P	CU
Commerical/Office Space, Retail	P	P on ground floor; CU required for upper story commerical uses.
Private Open Space	36 sq. ft./dwelling unit private space	1.33 x the unmet sq. ft. of private open space
Public/Common Open Space	Not Required	1.33 sq. ft. per square ft. of private open space requirement
Parking		
Residential	1 space/4 units	Same as C-3-G
Commercial	Not required	1 space/500 sq. ft. of retail or office space
Hotel	Not required	1 space/16 rooms plus 1 space
Off-Street Loading Space		
Residential/Hotel	3 spaces for floor area of over 500,000 sq. ft. and 1 space for every 400,000 sq. ft.	Same as C-3-G**
Office	.1 space for each 10,000 sq. ft. of floor area	Same as C-3-G**
Retail	1 space for floor area between 10,001 and 50,000 sq. ft.	Same as C-3-G**

P = Permitted Use
C = Conditional Use Authorization required

*Commerical Floor Area Ratio only; dwelling units are not counted against basic FAR in an RC-4 district.

**Off-street freight loading and service vehicle space requirements as required by the City Planning Code and amended by Resolution 9286.

Source: City and County of San Francisco, Planning Code, Sections 124, 135, 150, 153, 209, and 213; amended by Resolution 9286.

Until it does so, the Commission may not approve any proposal for the site with a height of over 80 ft., or not conforming to RC-4 zoning regulations.

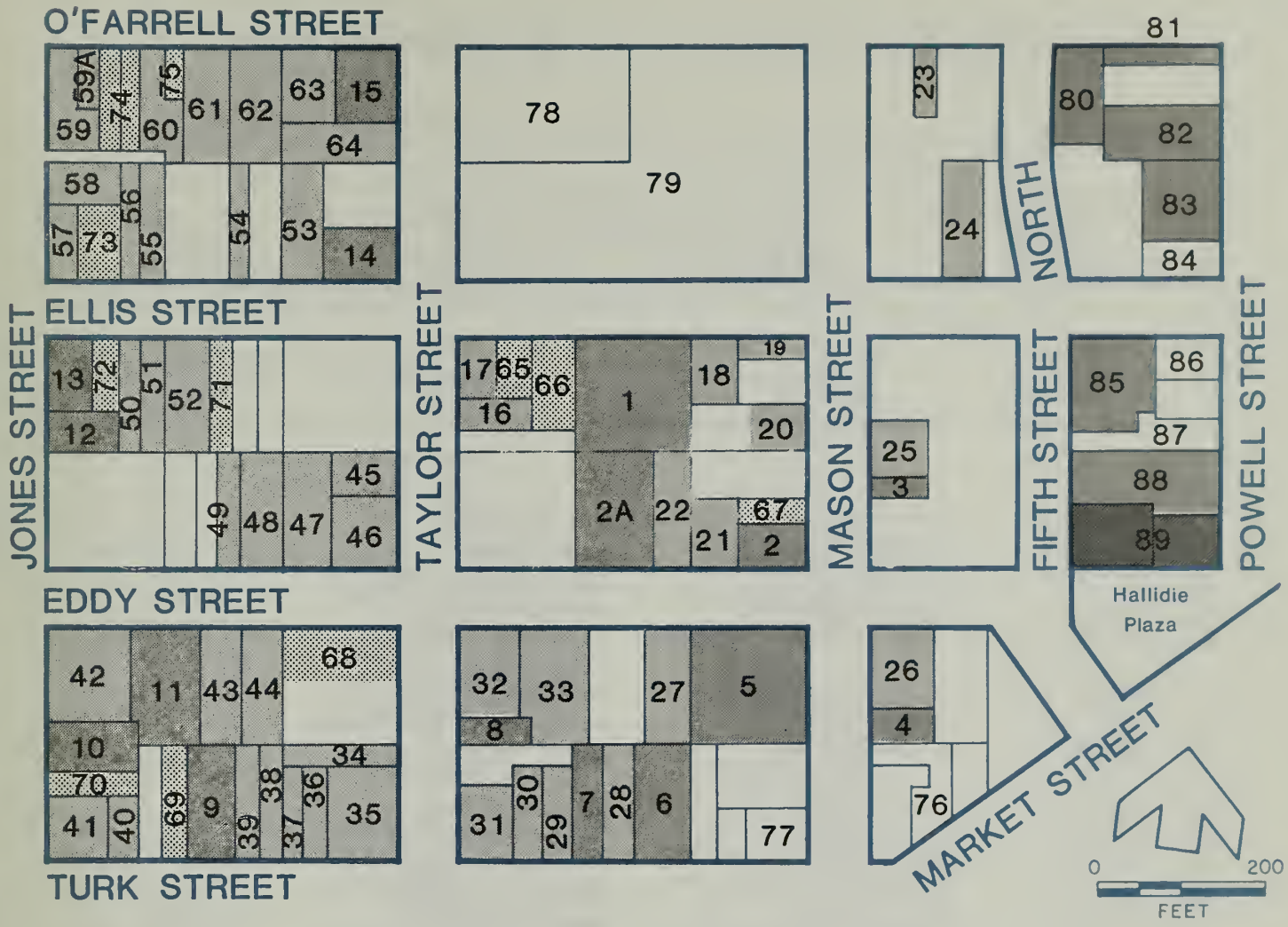
RC-4 districts are primarily for high-density residential uses. An RC-4 use district accommodates "mixed use", providing for a combination of high-density residential development (with open space requirements) and supporting commercial uses limited to the ground floor. Commercial uses above the ground story and tourist hotel uses require Conditional Use authorization. Higher densities and smaller units can be provided in this district, located in downtown San Francisco. The basic commercial floor area ratio (FAR) limit for RC-4 is 4.8:1. That is, buildings may have a commercial floor area (excluding parking and mechanical space) of up to 4.8 times the land area of the site. Residential floor area is not counted toward the 4.8 FAR. As noted, the NOMPC proposal calls for an interim height district of 80-X, meaning that the height limit would be 80 feet and no bulk limits would apply.

B. ARCHITECTURAL RESOURCES, VISUAL ASPECTS AND URBAN DESIGN

ARCHITECTURAL RESOURCES

The buildings on the project site and in the surrounding area are in the Tenderloin neighborhood, near the western edge of the Union Square hotel and commercial district. Most buildings in the Tenderloin were built during the building boom that followed the San Francisco Earthquake and Fire of 1906. Their architectural style represents a merger of the Beaux Arts tradition and the functionalist theories originating with the Chicago School. Therefore, buildings were built to be functional working spaces with a minimum of superfluous detail and ornament./1/ Most buildings, however, have traditional San Francisco architectural elements common to this period of construction; they include overhanging eaves, recessed windows, and dentils decorating the cornices. Since the area was less prestigious than the Financial District and Union Square, buildings are generally less ornate than those in the latter two areas. There are also numerous small warehouse buildings in the site vicinity.

Ten of the buildings on the project site are rated in the survey of the C-3 district conducted by the Foundation for San Francisco's Architectural Heritage ("Heritage"). Figure 22, on p. 45, identifies the buildings in the project block and in the surrounding neighborhood rated by Heritage and the Department of City Planning.



LEGEND

- A Rated Building
- B Rated Building
- C Rated Building
- D Rated Building

NOTE: Numbers identify rated structures. See following table.

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 22
Architectural Resources in the Project Vicinity

LEGEND FOR FIGURE 22: ARCHITECTURALLY/HISTORICALLY RATED BUILDINGS IN THE VICINITY OF AB 331

	Assessor's Block/Lot #	Address	Building	Heritage Rating	DCP Rating
1	331/16	233-65 Ellis St.	Flood Garage	B	1
2	331/6	101-111 Mason St.	Hotel Mason	B	2
2A	331/9	156-66 Eddy St.	William Penn Hotel	B	1
3	330/13	120-24 Mason St.	Kowalsky Apt.	B	1
4	341/7	34-8 Mason St.	Ruby Hill Vineyard Co. Bldg.	B	2
5	340/1	35-65 Mason St.	Ambassador Hotel	B	NR
6	340/7	34-48 Turk St.	Hotel Dale / Dalt Hotel	B	1
7	340/9	62-64 Turk St.	Hotel Portola / Aranda Hotel	B	1
8	340/14	136-42 Taylor St.	P. Dunphy Bldg.	B	3
9	339/8	150 Turk St.	Bogart Garage	B	3
10	339/13	226-36 Jones St.	Musicians' Union	B	NR
11	339/15	265 Eddy St.	Roosevelt Garage	B	NR
12	332/10	342-8 Jones St.	Bel-Air Hotel	B	2
13	332-12	387-97 Ellis St.	Hotel Mentone	B	0
14	324/4A	302-26 Ellis St.	Glide Memorial Church	B	2
15	324/1	401-11 O'Farrell St.	Columbia Hotel	B	1
16	331/12	240-8 Taylor St.	Elden Apts.	C	0
17	331/13	250-62 Taylor St.	Perkins St.	C	NR
18	331/1A	227-31 Ellis St.	Hammam Sultan Baths	C	1
19	331/1	201-25 Ellis St.	Diamond Hotel / Fitel Phillips Co.	C	1
20	331/3	135-47 Mason St.	Woodfield Bldg.	C	NR
21	331/7	128-32 Eddy St.	Crystal Hotel	C	NR
22	331/8	136-44 Eddy St.	Empress Hotel	C	0
23	326/13	279 O'Farrell St.	Fred Farish Bldg.	C	NR
24	326/10	172-4 Ellis St.	Hotel Ramona	C	NR
25	330/14	134-46 Mason St.	Olympic Hotel	C	NR
26	341/8	48-98 Mason St.	Hotel Bristol	C	0
27	340/18	141-5 Eddy St.	Hotel Zee (Hotel Dunloe)	C	1
28	340/8	50-2 Turk St.	Zellerbach / Levison Hotel	C	1
29	340/10	66-74 Turk St.	Hotel Taylor / Dahlia Hotel	C	1
30	340/11	76-80 Turk St.	Allen Bldg.	C	2
31	340/12	108-20 Taylor St.	Hotel Warfield	C	NR
32	340/15	144-64 Taylor St.	Moderne Hotel	C	NR
33	340/16	161-81 Eddy St.	Rosenbaum Estate Bldg.	C	NR
34	339/2	131 Taylor St.		C	NR

LEGEND FOR FIGURE 22 (continued)

	Assessor's Block/Lot #	Address	Building	Heritage Rating	DCP Rating
35	339/3	101-21 Taylor St.	Hyland Hotel	C	NR
36	339/4	116-26 Turk St.	Denning Hotel	C	NR
37	339/5	124-6 Turk St.	Portola Hotel / Camelot Hotel	C	NR
38	339/6	130-34 Turk St.	Dixon Bldg.	C	NR
39	339/7	136-40 Turk St.	Boston Hotel	C	NR
40	339/11	170-4 Turk St.	A.F. Niedt - Apts.	C	NR
41	339/11A	180-94 Turk St.	Hotel Antonia Manor	C	NR
42	339/14	240-56 Jones St.	Hotel Roosevelt	C	NR
43	339/15A	245-53 Eddy St.	Harriman Apts.	C	NR
44	339/16	233-7 Eddy St.	Hotel Eddy / Hotel Drake	C	NR
45	332/2	225 Taylor St.		C	0
46	332/3	200-16 Eddy St.	Hotel Ritz	C	1
47	332/4	230-2 Eddy St.	Hotel Olympic / The Alexander	C	NR
48	332/5	234-44 Eddy St.	La Coste Hotel / Windsor Hotel	C	NR
49	332/6	246-50 Eddy St.	Shoenfeld Bldg.	C	NR
50	332/14	373 Ellis St.	Coronado Hotel	C	NR
51	332/15	369 Ellis St.	McLaughlin Bldg.	C	NR
52	332/16	355-65 Ellis St.		C	NR
53	324/4B	322-32 Ellis St.	Glide Hotel & Apts.	C	2
54	324/6	344 Ellis St.	George Haas Realty Co. Apts.	C	0
55	324/9	370 Ellis St.	Smith & Stewart Apt. Bldg.	C	NR
56	324/10	372-6 Ellis St.	Hetty Apts.	C	NR
57	324/12	420 Jones St.	Riviera Hotel	C	NR
58	324/13	424 Jones St.	D. J. Clancy Apts.	C	NR
59	324/14	450 Jones St.	Aldoy Apts.	C	2
59A	324/15	485-9 O'Farrell St.	Sullivan Bldg.	C	NR
60	324/18	467 O'Farrell St.	Gay Consumers Assn. Bldg.	C	1
61	324/20	447-53 O'Farrell St.	Wilchar Apts.	C	NR
62	324/21	433-45 O'Farrell St.	Hotel Winters	C	NR
63	324/22	415-21 O'Farrell St.	Browne Hotel	C	NR
64	324/2	339-47 Taylor St.	Don Hotel / Hotel Mark Twain	C	NR
65	331/14	281-5 Ellis St.	Sullivan Bldg.	D	NR
66	331/15	275 Ellis St.	Bank of America Bldg.	NR	2
67	331/5	115 Mason St.	The Chez Paree	D	NR
68	339/17	201-29 Eddy St.	Clark Hotel	D	NR
69	339/9	162-6 Turk St.	El Rosa Hotel	D	NR

LEGEND FOR FIGURE 22 (continued)

	Assesor's Block/Lot #	Address	Building	Heritage Rating	DCP Rating
70	339/12	220 Jones St.	Screening Room	D	NR
71	332/17	347-51 Ellis St.		D	NR
72	332/13	379-83 Ellis St.	S & H Laundromat	D	NR
73	324/11	380-6 Ellis St.	Aronson Bldg.	D	NR
74	324/16-17	469-81 O'Farrell St.	Myers Bldg.	D	NR
75	324/19	461-65 O'Farrell St.	Ransohoff Bldg.	D	NR
76	341/5	938-942 Market St.		NR	0
77	340/4	16 Turk St.		NR	3
78	325/27	340 Taylor St.		NR	2
79	325/30	300-324 Taylor St.		NR	2
80	326/18	243 O'Farrell St.	Hotel Barclay	B	3
81	326/1	201 O'Farrell St.	Marquard's Little Cigar Store	B	NR
82	326/3	135 Powell St.	Walgreen's	B	1
83	326/4	111 Powell St.	Bernstein's Fish Grotto	B	2
84	326/5	120 Eddy St.		NR	1
85	330/23	119 Ellis St.	Continental Hotel	B	2
86	330/1	45 Powell St.		C	1
87	330/3	17 Powell St.	Powell Cinema	C	1
88	330/4	17 Powell St.	Hotel Powell	B	1
89	330/5	1 Powell St.	Bank of America	A	5

NR = Not rated.

NOTE: A building's name (in the table and in the ratings) may not coincide with the present building's name.

SOURCE: Foundation for San Francisco's Architectural Heritage Survey and the Department of City Planning's Survey. Compiled by Environmental Science Associates, Inc.

In the Heritage survey, buildings were rated on a scale from a low of "D" (Minor Importance) to a high of "A" (Highest Importance). Six of the buildings on the site are also rated on the architectural survey prepared by the Department of City Planning (1974-1976) which includes approximately the top 10% of the City's buildings in its inventory; in the City's architectural survey, buildings were rated on a scale between "0" (lowest rating) and "5" (highest rating).

Of the buildings within the project site, the Flood Garage at 233-65 Ellis St. had the highest rating, "B" (of major importance) in the Heritage Survey and a summary rating of "1" in the City survey. Seven buildings on the site were rated "C" in the Heritage Survey: three of those buildings were not rated by the City survey and of the remaining four, the City rated two buildings "0" and two buildings "1". Two buildings on the site were rated "D" in the Heritage Survey; these two buildings were not rated by the City. One building on the project site was not rated in the Heritage Survey, but was rated "2" in the City survey.

The Hotel Zee is identified as number 27 on Figure 22; it was rated "C" in the Heritage Survey and "1" in the City survey.

Many of the buildings in the area surrounding the project block are rated on the Heritage Survey. Most of these are rated "C" (contextual importance). (See Figure 22, p. 45.) The only "A" and "5" rated building in the project vicinity is the Bank of America Building at 1 Powell St. (See number 89 on Figure 22, p. 45.)

VISUAL ASPECTS AND URBAN DESIGN

The project site is currently occupied by buildings ranging in height from one to six stories. Figure 23, p. 50 shows four photographs of the site's existing frontages. These buildings date from the first two decades of the twentieth century, with the exception of the one-story Bank of America building on Ellis St., built in 1963. A parking lot at the corner of Eddy and Taylor Sts. is a prominent visual feature on the site. There are also two smaller, less conspicuous parking lots on Mason St.

The buildings occupying the blocks to the south, southwest, and west (the Tenderloin neighborhood) of the site are similar in scale and architectural character to those on the project block. Most of these buildings are rated by the Heritage Survey, primarily for their contextual importance in establishing a recognizable neighborhood fabric. Most buildings contain small retail stores at the street level; many of these are not well-maintained.

The 40-story Hilton Hotel Tower No. 1, to the north of the site, provides a visual contrast in scale and character to the adjacent area of small-scale buildings. The approved 32-story Ramada Hotel (under construction) and 27-story Holiday Inn would establish a similar visual contrast to existing uses when they are completed.

View of Mason St. frontage looking south

View of Ellis St. frontage looking west

View of Ellis St. frontage looking east

View of Eddy St. frontage looking west

Photographs taken February 1983

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 23
Photographs of Existing Frontages of the Project

In general, the site can be seen only from adjacent streets and buildings fronting on those streets. The site is also visible from higher vantage points, including the nearby towers of the St. Francis and Hilton Hotels.

WIND

Pedestrian comfort on sidewalks and in other public areas is determined by wind conditions. In downtown areas, flat-walled buildings can divert winds downward to street level and funnel wind flows into narrower areas, thereby increasing air turbulence and wind speeds. Northwesterly, westerly and southwesterly are the most frequent and strongest winds during all seasons in San Francisco. On an annual basis, west winds blow about 32% of the time and are the strongest, averaging about 10 miles per hour (mph) year-round. Southwest winds are typically the second most frequent and second strongest winds, occurring 25% of the time and averaging about 9 mph year-round. Northwest winds are generally less frequent, occurring about 11% of the time and averaging over 9 mph annually./2/

Average wind speeds are generally highest in the summer and lowest during the winter. However, the strongest peak winds occur during the winter, when one-hour average speeds of 27 mph or more have been recorded. In general, the highest average wind speeds are recorded in the mid-afternoon, the lowest in the early morning.

Using a scale model of the site and vicinity, a wind tunnel study included separate tests representing west, southwest, and northwest winds under existing conditions. All other projects now under construction, and approved for construction, were included in the scale model. These projects included the Ramada Inn, Holiday Inn, Hilton Tower No. 2, and 747 Post St. Condominium projects. Appendix B, p. A-29, includes a table giving the locations and the recorded values of the wind speed ratios at the project site. Wind speeds at pedestrian level can be predicted by multiplying the "freestream wind speed" (wind speed measured several hundred feet in the air, above the wakes of the surrounding buildings) by the "wind speed ratio" (ratio of surface to freestream winds, determined from wind tunnel tests)./3/ It should be noted that wind speed ratios are not actual wind speeds. A point having a "very high" wind speed ratio could still experience light winds when the freestream wind speed is low (a near-calm day). Likewise, a point

found to have a "low" wind speed ratio could experience strong winds when the freestream wind speed is high. For San Francisco, the commonly used definitions of pedestrian-level wind speed ratio ranges are as follows:

Relative Intensity of Surface Winds	Ratio of Pedestrian Level Wind Speed to Freestream Wind Speed
Low	0.00 - 0.19
Moderately Low	0.20 - 0.29
Moderate	0.30 - 0.49
Moderately High	0.50 - 0.69
High	0.70 - 1.00
Very High	Greater than 1.00

Receptors sensitive to wind conditions that were analyzed in detail include: the proposed Central City Park on Assessor's Block 332, Glide Memorial Church, the Airporter Bus Terminal and Hallidie Plaza. Under westerly wind conditions, near-surface wind speed ratios were found to be low or moderately low at all but two measured locations. The two exceptions, experiencing moderate wind speed ratios, were found at the intersection of Ellis St. and Fifth St. North, and on Ellis St. between Taylor and Mason Sts. There is a rapid acceleration, then deceleration, of wind along Ellis St. between Taylor and Mason Sts., caused by the configuration of the buildings.

Under northwest winds, low to moderately low wind speed ratios were found at all locations. The only exception was a moderate wind speed ratio on Taylor St. between Ellis and Eddy Sts. Ellis St. was found to experience consistent moderately low wind speed ratios between Taylor and Mason Sts. Wind speed ratios at all sensitive receptors were low.

Low to moderately low wind speed ratios also prevail when winds blow from the southwest. Moderate wind speed ratios were found at the Ellis - Mason Sts., and Ellis St. - Fifth St. North intersections. Hallidie Plaza experienced moderately low wind speed ratios, and all other sensitive receptors experienced low wind speed ratios.

NOTES - Architectural Resources, Visual Aspects, and Urban Design

/1/ The discussion of the architectural style of the project site vicinity is based on the text of Splendid Survivors (p. 33). Splendid Survivors was prepared by Charles Hall Page and Associates for The Foundation For San Francisco's Architectural Heritage. The text is by Michael Corbett. California Living Book: 1979.

/2/ The discussion of wind speeds and directions is based on U.S. Weather Bureau data, collected at 460 California St. near Montgomery St., and on Bay Area Air Quality Management District data collected at 939 Ellis St. just west of Van Ness Avenue.

/3/ The description of existing street level conditions is based on a report entitled "Initial Wind Tunnel Study, Project: Block 331 Mixed Use Development", September 1982, prepared by Bruce R. White, Ph.D., as a subconsultant to Environmental Science Associates, Inc. A copy of this report is on file at the Office of Environmental Review, 450 McAllister Street, 5th Floor. The methodology of the study is summarized in Appendix B, p. A-29.

C. EMPLOYMENT, HOUSING AND FISCAL ASPECTS

EMPLOYMENT

The exact number of on-site employees is not known. On the basis of about 36,000 gross sq. ft. of commercial space and known vacancies within the project site (see Table 3, p. 40 for existing uses) an estimated 60 persons are employed at the site./1/

SAN FRANCISCO AND REGIONAL OFFICE SPACE MARKET

Cumulative Downtown Development

San Francisco is the major office center in the Bay Area, with approximately 57.2 million gross sq. ft. of office space (see Appendix C, Table C-1, p. A-51). During the 1970s, space in downtown office buildings was added at a rate of about 1.5 million sq. ft. per year. In 1980 to 1982, the average rate of office space additions was about 2.7 million gross sq. ft. annually. Approximately 32.3 million gross sq. ft. of Downtown office space was constructed between 1960 and 1982 (based on Table C-1).

About 8.9 million gross sq. ft. of office space are currently under construction in downtown San Francisco. About 5.8 million gross sq. ft. have been formally approved but are not yet under construction, and an additional 4.0 million gross sq. ft. of office space are under formal review. Together these total 18.8 million gross sq. ft. of new office space.

About 1.5 million gross sq. ft. of existing office space have been or are proposed to be demolished to clear the sites for these office developments, resulting in a net addition of 17.3 million gross sq. ft. of new office space in downtown San Francisco. If these projects were all completed, San Francisco would have a total of approximately 74.5 million sq. ft. of office space.

The above numbers and the cumulative analyses in this report are based on a list of office buildings, prepared by the Department of City Planning, which on January 27, 1983 were in one of three categories: 1) under formal review by the Department of City Planning; 2) approved but not yet under construction; or 3) under construction. These buildings and the total sq. ft. of office and retail space in each category are listed in Appendix C, Table C-1, p. A-51.

The cumulative list contains only those buildings which are, or have been, formally under review by the Department of City Planning and the Department of Public Works. Not included are projects which are in a preliminary planning or speculative stage, for which details as to types of use and floor areas of office and retail space are not available. Those projects excluded from the cumulative list are some buildings in the Yerba Buena Center (YBC) Redevelopment Area (see following), Southern Pacific Land Company's Mission Bay Project, the Rincon Hill - South Beach Redevelopment Area, and unfunded State and Federal office building proposals. The cumulative list does contain those office buildings in the Yerba Buena Center Redevelopment Area which are under construction or for which Land Disposition Agreements have been approved, and which have definitely identified floor area figures. The San Francisco Redevelopment Agency is currently considering a range of additional amounts of office space for YBC, but the nature and scale, including floor area, are tentative and uncertain. Therefore, potential office space in YBC is not included. The general basis for future development will be in accordance with the Yerba Buena Center Redevelopment Plan as amended.

Vacancy Rates / Commercial Rents

The San Francisco Building Owners and Managers Association (BOMA) reported a citywide vacancy rate of six percent, based on an October 1982 survey of about 290 office buildings./2/ This rate is an increase over the 3.7% rate reported by BOMA in an earlier 1982 survey. According to a December 1982 Coldwell Banker survey, the vacancy rate in downtown San Francisco office buildings (new, existing and major renovations) was 5.7% /3/ The 5.7% rate is an increase from 0.1% reported in June 1981.

The current 5.7% vacancy rate is the sixth lowest in the nation among the 24 major downtown financial districts surveyed by Coldwell/Banker./3/ For comparison, the December 1982 vacancy rate is 10.3% nationally; 8.3% for Chicago; 4.3% for downtown Manhattan; 3.7% for Boston; and 10.0% for Dallas./3/

Both surveys indicate an upturn in the downtown office vacancy rate since mid-1981. The recent increase in that rate is a result of several factors, including an increase in the amount of available office space (because of new space being completed and space available for sublease), a short-term decline in the demand for office space, and the national economic recession. The higher vacancy rates indicate a softer office market than has existed in recent years. However, vacancy rates below five to seven percent indicate that demand remains strong in relation to available supply.

The historic shortage of office space in San Francisco (with associated high rents) has stimulated office development and increased the demand for office space elsewhere in the Bay Area. Some businesses have moved their clerical, support and noncorporate functions to outlying areas while maintaining headquarters and main branch offices in San Francisco. The City of Oakland, and San Mateo and Contra Costa Counties, in particular, are experiencing increased demand from businesses relocating from San Francisco. For example, approximately 6.0 million sq. ft. of office space in nine new buildings are currently proposed for the City of Oakland over the next 10 years, 27.2 million sq. ft. of office and retail space are projected in Contra Costa County and 13.5 million sq. ft. of office and 1.8 million sq. ft. of retail space are projected for northern and central San Mateo County./4/

Because of historically high demand, annual rents for commercial office space in the downtown Financial District have more than tripled in the last decade (from $8.50 per sq. ft. in 1970 to about $30 per sq. ft. in 1981)./5/ Current annual rents in older buildings in the Financial District are less expensive than those in new highrises; annual office rents range from $28 to $42 per sq. ft. in the Financial District and $25.50 to $38 per sq. ft. south of Market St./6/ Annual rents in the Civic Center area range between $18 and $26 per sq. ft. These compare to average commercial rents in Oakland of $18 to $27 per sq. ft. per year; on the Peninsula of $18-$23.40 per sq. ft. per year; and in Contra Costa County of $16 to $26.50 per sq. ft. per year./6/ Should the recent rise in vacancy rates continue, the upward pressure on current and future commercial rents would be expected to decline proportionately in San Francisco and outlying areas. Such market conditions could be beneficial to future lessees of office space.

HOUSING

Both regional and San Francisco housing stock are characterized by low growth rates, low vacancy rates, and high purchase and rental costs in relation to typical wages paid. This combination of factors and high mortgage costs have tended to constrict the supply and affordability of housing in San Francisco.

San Francisco has about 300,000 occupied housing units, according to the 1980 U.S. Census; about two-thirds of the housing stock is rented and one-third is owner-occupied./7/ The number of additional single- and multiple-housing units in San Francisco (authorized by building permits) decreased 34.4% between 1979 and 1980 (from 1,833 to 1,202 units)./8/ Housing starts in 1982 totaled about 1,550 units; of these, about 830 were low- and moderate-income units and about 720 were market-rate units./9/

The average 1980 market value of a single-family house was $140,000 in the Bay Area and $148,000 in San Francisco./10/ The 1980 Census reports a 1980 median value of $104,600 for single-family units in San Francisco (not including condominiums), and a vacancy rate of 1.0% for owner-occupied dwellings./11/

According to a nonrandom survey of newspaper advertisements by the Department of City Planning in 1980, median advertised rents ranged from $289 for a studio apartment to $588 for a unit with three + bedrooms, and averaged $455 for all types of units. Census data for 1980 indicated a median rent in the City of $267 and a vacancy rate of 4.2% for rental units./11/ Census rental data include residential hotels and subsidized housing. A survey conducted by the Federal Home Loan Bank of San Francisco between August and November of 1981 indicated a vacancy rate of 0.7% for multifamily units and 1.3% for single-family houses./12/ A vacancy rate of four to five percent indicates a competitive market; the very low rate in San Francisco means people who are looking for housing are having difficulties finding new residences and there is excess demand pressure which may cause price increases.

ON-SITE RESIDENTIAL USE

Three residential hotels, the Crystal, Empress and Diamond, contain about 165 rooms. About 70 apartment units are also on the site, six in the San Francisco Health Club, and 24 and 40 units in the El Don and 250 Taylor Apartments, respectively. Recognizing the

important role of residential hotels in the market for low- and moderate-income housing and the increasing trend of converting these units to transient tourist, apartment, condominium, office and retail uses, the Board of Supervisors passed the Residential Hotel Conversion Ordinance (330-81) in June 1981. This Ordinance discourages the demolition or conversion of residential hotel units, thus limiting speculation. Currently, about 32% of the housing stock in the Tenderloin area consists of residential hotel units; about 15% of these units have been lost since 1975./13/ About 21% of the residential hotel units in the City are located in the Tenderloin Area./14/

Complaints about illegal conversions must be made by residential-hotel tenants. Tenants (typically poor, elderly, and sometimes less educated than the general public) who are unaware of their legal rights or are intimidated by hotel owners may not report illegal conversions. Therefore, some conversions may occur that do not appear in building inspection records. An evaluation of the Ordinance by the Department of City Planning in March 1983 was inconclusive "...because the baseline data are inconclusive."/14/ Generally, the data indicate that there has been a modest loss of residential hotel units but the rate of loss has been reduced since enactment of the Ordinance. The Department of City Planning has made several recommendations concerning changes to the Ordinance that could improve its effectiveness./14/

FISCAL FACTORS

Total General Fund revenues generated by the site in the current 1982-83 fiscal year are estimated at about $150,500. In 1982-83, the General Fund revenues to the City and County of San Francisco from the site's sales, payroll, gross receipts, and parking taxes are estimated at about $100,000. The City's General Fund also receives about $53,900 in property tax revenues from the site. (Assessed value of the site in fiscal year 1982-83 is $6,169,382. At the 1982-83 property tax rate of $1.17 per $100 of assessed valuation, the site would generate about $72,200 in property tax revenues, distributed as shown in Table 5, p. 58.)

The City incurs costs in serving the project site. Police, fire, and general government expenditures are supported primarily by the General Fund. Most street maintenance, street improvements, and traffic control costs are supported by other revenue sources such as fines, fees, and federal and state aid.

TABLE 5: DISTRIBUTION OF PROPERTY TAX REVENUES, FISCAL YEAR 1982-83

Agency	Ad Valorem Tax Rate	Percent*	Revenues**
City and County of San Francisco			
General Fund	0.874	74.7	$53,932
Open Space Acquisition	0.025	2.1	1,542
Bond Repayment	0.099	8.4	6,096
S.F. Community College District	0.014	1.2	891
S.F. Unified School District			
General Purpose	0.078	6.7	4,810
Debt Service	0.008	0.7	517
Bay Area Air Quality Management District	0.002	0.2	129
BART			
General Fund	0.006	0.5	390
Debt Service	0.069	5.4	3,875
TOTAL	$1.17	100.0	$72,182

* Rounded; revenue calculations are based on actual percentages.
** Based on the 1982-83 composite tax rate of $1.17 per $100 of fair market valuation.

SOURCE: San Francisco Controller's Office; calculations by Environmental Science Associates, Inc..

NOTES - Employment, Housing and Fiscal Aspects

/1/ Based on visual inspections conducted by Environmental Science Associates in November 1982.

/2/ Elmer Johnson, Building Owners and Managers Association, telephone conversation, December 22, 1982.

/3/ Coldwell Banker, "Office Vacancy Index of the United States," December 31, 1982. San Francisco vacancy rates are part of a national survey of 24 major downtown districts conducted quarterly. A copy of the December 31, 1982 survey is on file and available for public review at the Office of Environmental Review, 450 McAllister St., 5th Floor.

/4/ City of Oakland, Department of City Planning, "Major Buildings in the Central District," January 26, 1982; People for Open Space, October 1982, Proposed East Bay Office Industrial Development; and Metropolitan Transportation Commission, September 17, 1982, Draft Report - Travel Impacts of Proposed Development on the Peninsula along Route 101.

/5/ Department of City Planning Memorandum to the City Planning Commission, "South of Market Interim Controls," January 26, 1982.

/6/ "The Commercial Real Estate Market in the San Francisco Bay Area," Coldwell Banker, December 1982.

/7/ Association of Bay Area Governments (ABAG), "Census Data Bulletin No. 6," March 1982.

/8/ ABAG, Housing Activity Report, Number 3, May 1981.

/9/ San Francisco Progress Real Estate Guide, November 5, 1982 "'82 Homes Built for Moderate Income Buyers", based on information obtained from the Mayor's Office of Housing and Community Development.

/10/ Security Pacific Bank, "Monthly Summary of Business Conditions - Northern Coastal," March 31, 1981, p. 2.

/11/ City Planning and Information Services, "1980 Census Information," March 1982.

/12/ Federal Home Loan Bank of San Francisco, "San Francisco County Housing Vacancy Survey," May 1982.

/13/ City and County of San Francisco, Mayor's Office of Housing and Community Development, 1983 Community Development Program and Housing Assistance Plan, Final Proposal, October 1982.

/14/ Department of City Planning memorandum to the City Planning Commission, "Annual Report on Operation of Residential Hotel Conversion and Demolition Ordinance," March 10, 1983.

D. TRANSPORTATION, CIRCULATION, AND PARKING

PUBLIC TRANSIT

The site is two blocks south and one block west of Union Square, across Ellis St. from the existing Hilton Hotel, across Mason St. from the Hotel Ramada, which is under construction, and diagonally across the Ellis - Mason Sts. intersection from the approved Holiday Inn. Charter bus, limousine, and taxi services are generated by the large number of nearby transient tourist hotels; therefore these are established and growing modes of transportation in the project area. The Airporter Bus Terminal, which provides bus

service to the San Francisco International and Oakland Airports, is located on the southwest corner of Ellis and Taylor Sts., across from the project site.

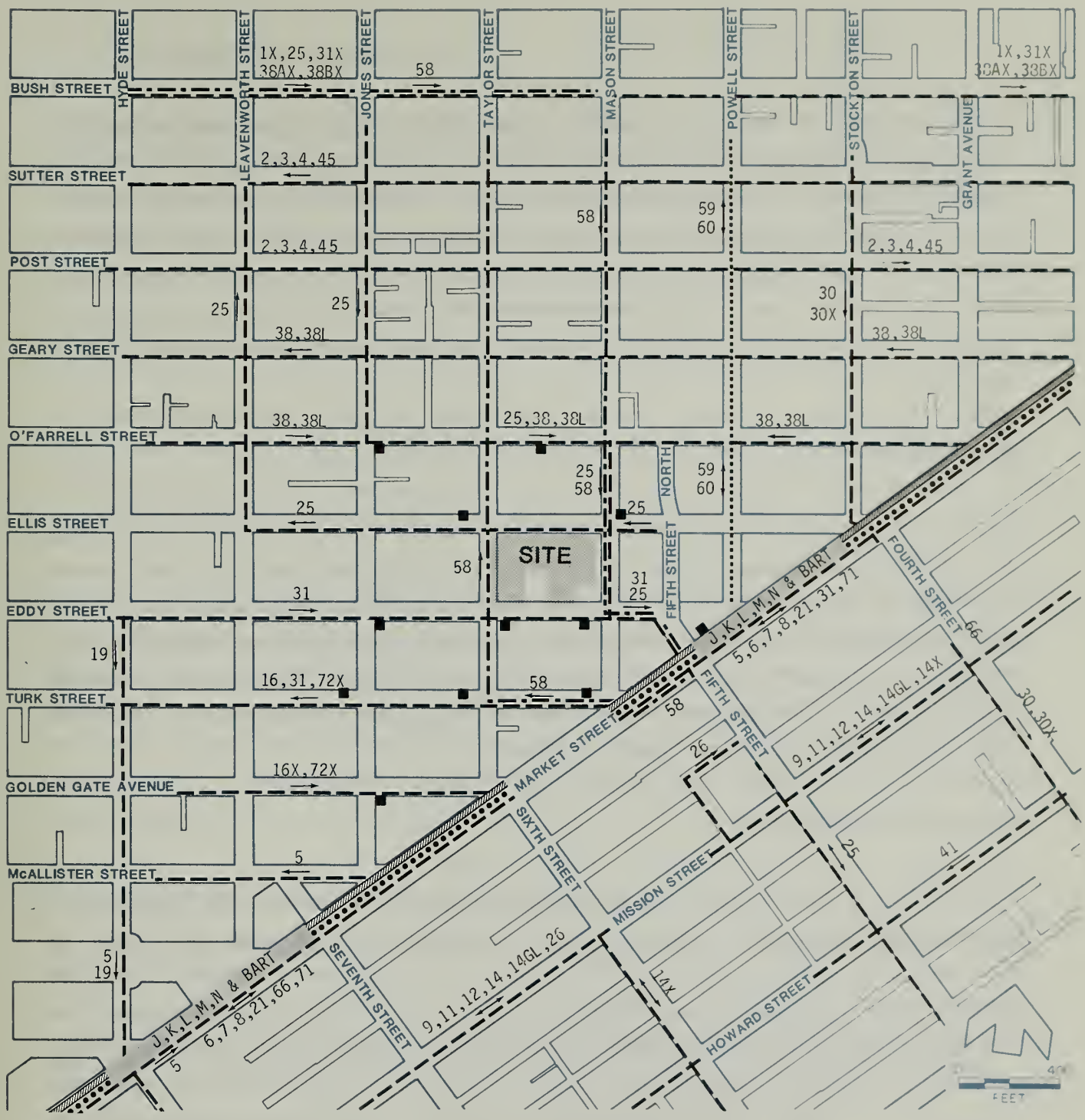
The project site is well situated for access to local transit lines (see Figure 24, p. 61). All Muni Metro light rail vehicle (LRV) and BART lines serve the site from the subway station at Powell and Market Sts. Approximately 40 Muni lines stop within 2,000 ft. (walking distance) of the site. At present, Muni routes on streets bordering the project block are the 25 San Bruno, which operates on Mason and Ellis Sts., and the 31 Balboa, which operates on Eddy St. Other Muni lines in the area are shown on Figure 24.

Bus service to the Southern Pacific Depot (at Fourth and Townsend Sts.) via Route 30 is available within two blocks. Peninsula service is provided by the CalTrans Peninsula Train (Southern Pacific) from this depot. San Mateo County Transit District (SamTrans) buses also provide Peninsula service; SamTrans has bus routes and stops along various streets downtown, and transfer connections at the Daly City BART Station.

The Golden Gate Bridge, Highway, and Transportation District (Golden Gate Transit) provides peak-period bus service to Marin and Sonoma Counties from stops at McAllister and Seventh Sts., Jones St. and Golden Gate Ave., and Van Ness Ave. and Geary St. Golden Gate Transit also provides ferry commuter service to terminals in Larkspur and Sausalito from the Ferry Building, and Harbor Carriers, Inc. provides service to Tiburon, also from the Ferry Building. The Ferry Terminal is 12 blocks east of the site, and can be reached on the 38 Geary line, which stops one block north of the site. In addition, Golden Gate Transit operates a vanpooling program to North Bay areas.

A-C Transit uses the Transbay Terminal as its primary downtown terminal, for bus service to and from Alameda and Contra Costa Counties. Golden Gate Transit also uses this terminal for North Bay bus service. The Transbay Terminal is eight blocks east of the site and can also be reached on the 38 Geary line.

During peak commute hours, independently owned and operated jitneys provide additional transit service on Mission St., located two to three blocks south of the project site. A carpooling program, RIDES for Bay Area Commuters, provides leasing and matching services for establishing vanpools and carpools.



LEGEND

	BART and Muni Metro Station	·····	Cable Car Route (Currently inactive until 1984)
▨	BART Route	—·—·—	58 – Leavenworth Line to Replace Cable Car Lines 59 and 60
•••••••••	Muni Metro Subway	1,2,3,J,K	Route Designation
— — —	Transit Route	■	Muni Stop Near Site

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 24
Muni Lines and BART Within 2000 Feet of the Project Site

All four streets bordering the project block, (Ellis, Eddy, Taylor, and Mason) are designated as "transit arterial" streets in the City's Downtown Transportation Plan (an element of the 1972 Comprehensive Plan). Transit arterial streets are routes of major arterial transit lines for maximizing internal downtown accessibility. Mason, Eddy, and Ellis Sts. are also designated as "transit preferential streets" in the Mass Transit Plan of the Comprehensive Plan. Transit preferential streets are streets where interference with transit vehicles by other traffic should be minimized to allow efficient regional access to the City.

PEDESTRIANS

Pedestrians on project-block sidewalks and in crosswalks to the project block number less than 10 persons per minute during the p.m. peak pedestrian hour, which is approximately from 4:30 to 5:30 p.m. Effective sidewalk widths around the block range from 7 to 10 feet. The resulting flow rates are less than two persons per minute per effective foot of sidewalk width, representing an unimpeded condition in which sidewalks and crosswalks are open and conflicts between pedestrians are negligible (see Appendix C, Table C-8, p. A-64). Noontime pedestrian traffic is similar./1/

VEHICLES AND STREETS

Recent 24-hour traffic counts on the streets bordering the site are not available, but counts of noon-hour and a.m. and p.m. peak-hour traffic have been made./2/ During the p.m. peak hour, which is generally 5:00 - 6:00 p.m. for vehicular traffic in the area, the greatest traffic volumes (about 1,400 vehicles per hour) are on Ellis and on Taylor Sts. The intersection of Taylor and Ellis Sts. then operates at level of service (LOS) C, which describes generally good operating conditions, so that most drivers feel only somewhat restricted. The other three intersections at the corner of the project block operate at LOS A or B (very good operating conditions) during the p.m. peak hour.

Eddy (inbound, eastbound) and Ellis (outbound, westbound) Sts. form a one-way pair, as do Mason (inbound, southbound) and Taylor (outbound, northbound) Sts. Eddy, Ellis and Taylor Sts. have three traffic lanes and two curbside parking lanes; Mason St. has two traffic lanes and two curbside parking lanes.

The ingress/egress to/from the existing public parking structure on the site (290 stalls) is from/to Ellis St. Three small public parking lots on the site, totaling about 130 spaces, front on Taylor and on Mason Sts. Curbside loading associated with commercial uses on the site occurs in yellow zones around the block, and curbside parking is fully used during business hours.

PARKING

The public garage and the three surface lots now on the site can accommodate about 420 parked vehicles. Within about 1,000 feet of the site are about 3,650 public off-street parking spaces in garages and lots./3/ The peak occupancy of these and of the spaces on the site is about 85%, representing about 530 vacancies./3/

Curbside parking was surveyed in the area bounded by the centerlines of Market St., Golden Gate Ave., and Jones, Geary, and Powell Sts./4/ There are about 270 parking meters within this area, all within three blocks of the site. The total number of vehicles parked at curbside in this area at mid-afternoon, including legal and illegal parking in unmetered yellow loading zones, represents 100 more parking spaces. These data suggest that demand for curbside (short-term) parking exceeds the available supply for part of each weekday.

NOTES - Transportation, Circulation, and Parking

/1/ Information from counts made by ESA between 4:00 and 6:00 p.m. on October 5 and October 7, 1982.

/2/ Data obtained from counts made by ESA between 7:00 and 8:30 a.m. on October 8, 1982, and by TJKM, transportation consultants, between 4:00 and 6:00 p.m. on November 5, 9, 24, and 30, 1981, and between 12:00 and 1:00 p.m. on December 14, 1981.

/3/ Data collected in 1980 and 1981, by TJKM, transportation consultants.

/4/ Observations conducted by ESA on October 7, 1982, between 2:00 and 3:00 p.m.

E. AIR QUALITY

The nine-county San Francisco Bay Area Air Basin is designated by the California Air Resources Board (CARB) as a nonattainment area for ozone and carbon monoxide (CO)./1/ San Francisco itself is a nonattainment area for ozone only.

As required by the federal Clean Air Act Amendments of 1977, a regional Air Quality Plan has been adopted which establishes control strategies to attain and maintain the various standards by 1987./2/ These strategies include stationary and mobile source emission controls and transportation improvements to be implemented by the Bay Area Air Quality Management District (BAAQMD), CARB and Metropolitan Transportation Commission (MTC).

BAAQMD operates an air quality monitoring station approximately two miles to the south of the site at 900 23rd St. A three-year summary of the data collected, and the corresponding ambient air quality standards, are shown in Appendix D, p. A-66. These data shown occasional excesses of the most stringent ozone, carbon monoxide (CO), total suspended particulate (TSP), and nitrogen dioxide standards.

Highest annual pollutant concentrations in San Francisco, while exhibiting fluctuations due to variations in meteorology, have shown an overall improvement during the 1971-1981 period. No similar trend in the annual number of standards excesses is evident. Such excesses are infrequent.

San Francisco's air quality, in general, is the least degraded of all the developed portions of the Bay Area. Because of prevailing southwesterly, westerly, and northwesterly winds, San Francisco is a generator of its own air quality problems (especially CO and TSP) and a contributor to those in other parts of the Bay Area (especially ozone), rather than a recipient of pollutants from elsewhere. CO and TSP concentrations reflect local emission sources. Concentrations are highest at the source and decline as the pollutants are dispersed by wind. In contrast, ozone is not emitted directly but is a secondary pollutant formed in the atmosphere by a complex series of photochemical reactions involving emitted hydrocarbons and nitrogen oxides. Ozone air pollution is thus a regional phenomenon because the precursor pollutants are carried downwind as the reaction process occurs.

NOTES - Air Quality

/1/ A nonattainment area is one in which the federal ambient air quality standard for the designated pollutant has been exceeded within the past two to three years.

/2/ Association of Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), and Metropolitan Transportation Commission (MTC), July 1982, 1982 Bay Area Air Quality Plan, San Francisco Bay Area Environmental Management Plan.

G. ENERGY

LOCAL ENERGY SUPPLY

Electricity and natural gas are supplied to San Francisco by Pacific Gas and Electric Company (PG&E). New demands for electricity in northern California will be met primarily with energy derived from coal, nuclear, and hydroelectric sources. Cogeneration (i.e., production of electricity from waste heat) and additional geothermal power development will also supplement existing supplies. Among the major new power plants PGandE plans to bring on line are the Diablo Canyon nuclear plant and the Helms Pump Storage hydroelectric plant. Both projects are expected to have their first units on line in Spring 1983. PG&E also anticipates increased purchases of electricity from other utilities. This power is expected to come primarily from surpluses generated by hydroelectric and nuclear plants in Washington State. These surpluses are uncertain due to the recent cancellation of plans for two of the five Washington Public Power Supply System nuclear plants and the delay in construction of another, as well as long-term increased local demand for energy in the Pacific Northwest.

PG&E has long-term agreements with Southern California utilities (California Power Pool Agreement) and Pacific Northwest utilities (Pacific Northwest - Southwest Intertie) for energy pooling, exchange, and purchase that will be used in part to meet future peak-period demand. PG&E also expects to use wind turbine generators to help meet future demand./1/

ON-SITE ENERGY CONSUMPTION

Energy consumption data for the existing buildings on the project site are not currently available. The estimated annual energy consumption of existing development on the site, based on average energy consumption factors for residential, retail, and office use for existing development in San Francisco (see Appendix F, pp. A-71 to A-73), is about 2.3 million kWh of electricity and about 22.3 million cubic feet of natural gas. This is equal to about 48 billion Btu at source./2/

ENERGY CONSERVATION REGULATIONS, PLANS, AND POLICIES

Building energy efficiency is regulated both at the state level and at the City and County level.

California Administrative Code Title 24 (Energy Building Regulations for New Residential and Nonresidential Buildings) standards apply to all new construction initiated in California after July 1, 1978. Enacted at the state level to answer public concern over real energy shortages and rising energy prices, the law leading to these standards is enforced at the local level through the building permit process. Title 24 provides both a prescriptive and a performance method of compliance. Prescriptive standards are required design features that insure a minimum level of energy efficiency, while performance standards are allowable energy budgets that, if met through innovative building or equipment design, exempt the building from some of the prescriptive requirements. Before a building permit can be issued, a licensed engineer must certify the building's compliance with Title 24. If local governments fail to enforce the Title 24 regulations properly, the State may take enforcement action.

Citizens' Energy Policy Advisory Committee (CEPAC). Pursuant to a resolution of the Board of Supervisors, CEPAC was appointed by the Mayor in 1981 to study energy-related problems and opportunities in the City, and to make recommendations concerning energy conservation for the entire city.

CEPAC's final report contains recommendations for energy conservation for the residential, commercial, and industrial sectors, which account for about 95% of the conventional energy supplies consumed in San Francisco each year./3/ Many of CEPAC's recommendations have been adopted by the City in the new Energy Element of the Comprehensive Plan (see below).

Energy Element, San Francisco Comprehensive Plan. (Adopted June 3, 1982, Planning Commission Resolution No. 9409.) This Plan contains policies to:

- assure reliable and affordable energy supplies in the City;
- improve the City's ability to respond to a fuel or power emergency;
- reduce building energy consumption;
- increase energy efficiency of transportation; and
- increase conservation and use of alternative energy technologies and renewable energy sources.

NOTES - Energy Setting

/1/ Environmental Science Associates, 1982, Cordelia Hills WTG Project FEIR, City of Fairfield, p. 10.

/2/ The British thermal unit (Btu) is the quantity of heat required to raise the temperature of one pound of water one degree F (251.98 calories) at sea level. The term "at source" means that adjustments have been made in the calculation of the Btu energy equivalent for losses in energy which occur during generation and transmission of the various energy forms as specified in: ERCDC, 1977 Energy Conservation Design Manual for New Nonresidential Buildings, Energy Conservation and Development Commission, Sacramento, CA. and Apostolos, J.A., W.R. Shoemaker, and E.C. Shirley, 1978, Energy and Transportation Systems, California Department of Transportation, Sacramento, CA Proj. #20-7 Task 8.

/3/ Citizens' Energy Policy Advisory Committee, 1982, Recommendations for Reducing Community Energy Costs.

H. GEOLOGY, SEISMICITY, AND HYDROLOGY

GEOLOGY

The site is located on gently sloping land about 1.25 miles from San Francisco Bay. The site is approximately at Elevation 45-55 (San Francisco City Datum, which itself is 8.6 ft. above Mean Sea Level); the Ellis St. side of the site is about 15 feet higher than the Eddy St. side. Higher land is located to the north at Nob Hill, and more distantly, to the northwest and west.

A soils investigation of the site has not yet been performed. The underlying deposits on the site are mapped by the U.S. Geological Survey as undifferentiated, surficial deposits, a general designation indicating material composed of unconsolidated sand and clay, slope debris, water-laid deposits, and Bay mud. Data from borings at nearby sites (Hilton Hotel Tower No. 2 and Hotel Ramada /1, 2 and 3/), indicate that it is probable that these non-rock sediments extend to a depth of about 180 feet, the depth at which bedrock is encountered. Those borings indicate that the site probably is underlain by about 10 to 20 feet of fill at the surface. If present, the fill likely consists mostly of sand and may include concrete, brick fragments, and other debris; it is probably unengineered. The fill probably has relatively low strength and is possibly compressible./4/ Beneath this fill is about 10 feet of medium dense and/or silty sand./4/ Underlying these layers is probably about 160 feet of dense to very dense sand with some silt and clay./4/ The dense sands are part of the Colma formation, which is believed to rest on bedrock probably of the

Franciscan formation (a highly fractured and sheared sandstone), shale and other rock material. The dense sands are generally described as excellent foundation material, as they undergo little compression and settlement under heavy loads.

SEISMOLOGY

No known active faults are located within the City of San Francisco. An active fault is a fault which has a historic record or other geophysical evidence of movement within approximately the last 10,000 years. Several active faults affect San Francisco. The San Andreas Fault is located about 9 miles southwest of the site, the Hayward Fault about 15 miles to the east and the Calaveras Fault about 30 miles to the east (see Appendix G, p. A-74).

These three faults historically have produced major and minor earthquakes. Movement on the San Andreas Fault has produced the largest earthquake in the area, the 1906 San Francisco earthquake, that had an approximate magnitude of 8.3 on the Richter scale (a logarithmic scale developed by Charles Richter to measure earthquake magnitude by the energy released). In the future, earthquakes are expected in the San Francisco Bay Area. Earthquake recurrence intervals vary, but several earthquakes comparable to the 1957 Daly City earthquake (about 5.3 on the Richter scale) and a major earthquake comparable to the 1906 San Francisco earthquake could be expected to affect the proposed project during its usable life. Recent earthquakes have been felt in San Francisco, but caused no damage there. The Greenville Sequence of earthquakes in Livermore occurred from January 24 to 26, 1980; the largest of these earthquakes measured 5.8 on the Richter scale. An earthquake of Richter magnitude 5.9 occurred on August 6, 1979 at Coyote Lake, approximately 78 miles southeast of the project site./5/

The chief earthquake hazard at the site is ground shaking. The project's geotechnical consultant has estimated that the maximum credible and the probable ground surface acceleration at the site would be on the order of 0.3g and 0.2g (g = gravitational acceleration) respectively. The site would be expected to have "very strong" ground shaking, which could cause masonry to crack badly and occasionally collapse, and could cause frame buildings to lurch when on weak underpinnings, and possibly to collapse. The geotechnical study for the Hilton Hotel Tower No. 2 site/2/ and the Blume report/6/, indicate that there is no liquefaction/7/ or subsidence hazard on site. The existing buildings on site do not meet current Building Code standards with respect to seismic safety.

HYDROLOGY

The site is currently covered by buildings, concrete and other impermeable surfaces. Stormwater runoff is directed from the site surfaces into the adjacent streets, where it is collected by the combined stormwater/sewage system. Stormwater runoff occurs primarily during the November to April rainy season. No water bodies, springs or watercourses are located on the site.

Groundwater levels have not been measured on site, but those measured at the nearby site of the proposed Hilton Tower No. 2 indicate that groundwater level is about 50 feet below the curb elevation. The source of groundwater is probably surface absorption on Nob Hill. The groundwater is fresh water and is not influenced by tidal fluctuations./2/

The quality of stormwater runoff from the site is poor. The primary pollutants include oil, grease, gasoline, rubber from vehicle tires, litter, and organic materials.

NOTES - Geology, Seismology and Hydrology

/1/ Woodward-Clyde and Associates, 1968, Soil Investigation for the Hilton Hotel Tower, Taylor and Ellis Streets, San Francisco, California, prepared for Hilton Hotels Corporation.

/2/ Lee and Praszker, 1980, Geotechnical Input for Environmental Impact Report, Hilton Tower No. 2, San Francisco, California, prepared for Hilton Hotels Corporation.

/3/ Harding-Lawson Associates, 1980, Geotechnical Investigation, Proposed Ramada Inn, San Francisco, California, prepared for Haas and Haynie Corporation.

/4/ Harding-Lawson Associates, 1982, letter dated February 18, 1982 to Environmental Science Associates, Inc.

/5/ Roger Borcherdt, Acting Chief of Seismic Engineering, U.S. Geological Survey, telephone conversation, January 20, 1983.

/6/ URS / John A. Blume Associates, 1974, San Francisco Seismic Safety Investigation, prepared for the Department of City Planning, City of San Francisco.

/7/ Liquefaction is the earthquake-induced transformation of a stable wet granular material, such as wet sand, into a fluidlike state, similar to quicksand. Subsidence is the uneven local settlement of the ground's surface. Although it can occur under static (normal) conditions, it is frequently activated by strong ground motion, e.g., a major earthquake.

IV. ENVIRONMENTAL IMPACT

An Initial Study of a mixed-use development project for Asssessor's Block 331 was published December 18, 1981, and a determination was made that an Environmental Impact Report (EIR) was required. The currently proposed project differs from the development that was analyzed in the Initial Study (see Appendix A, p. A-1); the current project is 20% smaller with a different design, includes the Diamond Hotel parcel, but excludes the Mason Hotel parcel, and includes the off-site rehabilitation of the Hotel Zee. The development that was analyzed in the Initial Study has been included in this EIR as Alternative F (see Section VII, pp. 171-174). Potential effects that were found in the Initial Study to be insignificant for the previous proposal remain so for the current project. These effects include operational noise, public services and utilities, biology, hazards, and cultural and historic factors, and are not discussed in the EIR. The Initial Study may be referred to for a discussion of these issues. Not all of the impacts discussed in this section are physical environmental effects as defined by the California Environmental Quality Act (CEQA). They are included here for informational purposes only.

A. LAND USE AND ZONING

The proposed development would change the nature of the land uses on the site from small-scale commercial, and entertainment businesses, offices, a health club, public parking and small-scale residential units in older buildings to large-scale residential, hotel and office uses with small-scale neighborhood- and tourist-oriented retail space.

On-site, two existing residential hotels on Eddy St., the Crystal and Empress Hotels, and two apartment buildings on Taylor St., the El Don Apartments and 250 Taylor St., would be rehabilitated by the project sponsor and retained for residential uses. Off-site, the Hotel Zee at 141-5 Eddy St. would be rehabilitated and retained. The William Penn Hotel at 156-66 Eddy St. on the project block is proposed for acquisition and rehabilitation under an Urban Development Action Grant (UDAG) and is not a part of the proposed project.

The Mason Hotel at 101-111 Mason St., on the project block at the corner of Mason and Eddy Sts., is also not part of the proposed project. The remaining seven buildings, including 28 residential-hotel and six apartment units, would be demolished. The residents of these units would be displaced. Approximately 130 surface-level and 290 parking-structure public parking spaces would be eliminated, a total of 420 spaces.

COMPREHENSIVE PLAN

Preservation of the 255 residential-hotel and 65 apartment units as low- and moderate-income housing would respond to Objective 4, Policy 1 of the Residence Element: "Preserve and expand the supply of low-and moderate-income housing"; and Objective 5, Policy 3: "Ensure the availability of quality rental housing."/1/

By preserving and maintaining approximately 255 low- and moderate-income residential hotel rooms, the project would be responsive to the intent and purpose of the City's Residential Hotel Unit Conversion and Demolition Ordinance (Ordinance No. 330-81); however, the project would also demolish the 28-unit Diamond residential hotel. Demolition of the Diamond Hotel and the six-unit apartment building at 227-31 Ellis St. would not be responsive to Objective 1, Policy 7 of the Residence Element: "Discourage demolition of housing that is sound or capable of rehabilitation."/1/

The proposed hotel tourist-oriented commercial uses would respond to Objective 10 of the Commerce and Industry Element, which is to "enhance San Francisco's position as a national center for conventions and visitor trade." To the extent that these uses displace existing residential and commercial uses, or stimulate development of tourist-oriented uses in the Tenderloin, the project would not be responsive to Objective 10, Policy 1 of the Commerce and Industry Element: "Guide the location of additional tourist-related activities to minimize their adverse impacts on existing residential, commercial, and industrial activities."/2/

Displaced tenants of the Diamond Hotel and the 227-31 Ellis St. apartments would be given priority to rent the rehabilitated on-site residential units if they qualify under the HUD Section 8 housing program guidelines. This measure would respond to Objective 6, Policy 4 of the Residence Element, which states "permit displaced households the right of first refusal to occupy any replacement housing units."

The proposed office space could have direct and indirect growth-inducing effects on the existing residential and commercial uses in the Tenderloin; by doing so, the project would not respond to Objective 6, Policy 2 of the Commerce and Industry Element: "Guide location of office development to maintain a compact downtown core so as to minimize displacement of other viable uses".

ZONING

The proposed project would not comply fully with the interim RC-4 use and 80-foot height reclassification of the project site as proposed in the North of Market Planning Coalition (NOMPC) rezoning (see Table 6, p. 73). The Department of City Planning is currently considering permanent zoning controls for the Tenderloin area, which would include the project block. These proposals include the North of Market - Mixed Use District (NOM-MUD) and Guiding Downtown Development (July, 1982). See Section VII., p. 158 and p. 167 for a discussion of alternatives to the project that would meet the requirements of these two proposals.

Under the interim RC-4 zoning controls, the project would require Conditional Use authorization for the proposed hotel use, for office space above the ground floor, and for building heights of over 40 feet and up to the height limit of the district. Because the proposed project would develop structures up to 320 feet in height, and the interim height limit is 80 feet, the City Planning Commission would have to deny the NOMPC 80-foot height limit rezoning application, in which case the underlying height limit (320 feet) would apply. The project would then meet the 320-foot height limit.

Exclusive of premiums, the basic commercial Floor Area Ratio of 4.8:1 in the RC-4 district would allow development of up to approximately 462,200 square feet of commercial floor area on the 96,284-square-foot site. The project would develop about 651,500 square feet of commercial space, including the construction of 218,600 square feet of office, 332,900 square feet of hotel, and 44,700 square feet of retail space; and the rehabilitation of 42,700 square feet of existing residential hotel units and 13,300 square feet of retail space. Thus, the project would exceed the basic allowable floor area by about 190,000 square feet, exclusive of floor area premiums. Through the Conditional Use process, the project sponsor intends to request about 59,600 square feet of commercial

TABLE 6: COMPARISON OF INTERIM RC-4 DISTRICT WITH PROPOSED PROJECT*

RC-4 District Requirement	Site Development Complying with RC-4 District	Proposed Project
Housing Density (1 DU/200 sq. ft.)	480	430 (1)
Group Housing Density (1 bdrm/70 sq. ft. of lot)	1,375	130
Commercial Floor Area Ratio (4.8:1 FAR)	521,800	651,500 (2)
Parking Required		
Hotel (1 stall/16 rooms + 1)	30	30
Housing (1 stall/4 units)	95	109
Office/Retail (1 stall/500 sq. ft. net)	475	475
Total Required	600 (3)	614 (3)
Off-Street Freight Loading Spaces, by use		
Hotel	2	2
Housing	2	2
Office	2	2
Retail	1	1
	7	7
Additional Spaces (not required)	0	5
Total Required/Provided	7	12
Open Space		
Private Balconies (36 sq. ft./DU)	13,400	4,700
Public/Common 1.33 (13,355-4680)	11,500 (4)	18,300
Height Limit (feet)		
Mason	80	260
Ellis	80	320 (5)
Taylor	80	190
Bulk (6)	No Limit	--

*All figures rounded, except for off-street freight loading requirements.

Footnotes continue on p. 74.

NOTES - Table 6 (continued):

(1) The proposed project includes 370 new dwelling units and 60 existing dwelling units.

(2) The commercial floor area of the project (651,500 square feet) corresponds to an FAR of about 6.0:1, including floor area premiums. The commercial floor area includes all floor area in the new construction and existing buildings, except for the floor area contained in 370 proposed and 60 existing dwelling units. (Dwelling units are not included in the FAR calculation in the RC-4 district.) To allow development of additional floor area, the sponsor will request Conditional Use authorization for a Planned Unit Development (PUD). Under a PUD, the maximum commercial FAR would be 7.0:1, thus allowing development of up to 760,000 square feet of commercial uses.

(3) This calculation is based on conceptual floor plan designs and assumes a 90% floor area efficiency (net over gross) for calculating required parking. The actual efficiency is likely to be less, thus reducing the parking requirements. The 14 additional parking spaces for the proposed housing could be allowed as an accessory parking use (Section 204.5(b) of the City Planning Code).

(4) Section 135 (d) of the City Planning Code requires that the amount of residential open space not satisfied through the use of private balconies be satisfied through public, common open space at 1.33 times the unfulfilled amount.

(5) The project as proposed cannot be approved unless the City Planning Commission amends the zoning text to increase the interim height limits to accommodate development up to 320 feet high on the project site.

(6) The interim height district is 80-X, meaning that no bulk limits apply.

SOURCE: City and County of San Francisco Planning Code; Whisler-Patri Architects.

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floor area premiums for corner lot and interior lot premiums (see Table 2, p. 36). Even with the additional floor area premium of 59,600 square feet, the commercial floor area of the project would exceed the maximum allowable by about 130,400 square feet.

The sponsor would also apply for a Conditional Use authorization for consideration of the project as a Planned Unit Development (PUD) under Sections 303 and 304 of the City Planning Code. As a PUD, the project may be permitted additional floor area up to the amount allowed in the next higher use district in which housing is a principal use./3/ In this case, the next higher district is C-3-S, with a basic FAR of 7:1. A 7:1 FAR would

allow up to 760,000 square feet of commercial development on the project site, 107,800 square feet more than would be developed in the project.

NOTES - Land Use and Zoning

/1/ City and County of San Francisco, Department of City Planning, Residence Element of the Comprehensive Plan, adopted December 11, 1975.

/2/ City and County of San Francisco, Department of City Planning, Commerce and Industry Element of the Comprehensive Plan, adopted June 29, 1978.

/3/ Robert Passmore, City and County of San Francisco, Zoning Administrator, meeting, December 21, 1982.

B. ARCHITECTURAL RESOURCES, VISUAL ASPECTS, AND URBAN DESIGN

ARCHITECTURAL RESOURCES

The project would result in the demolition of te Flood Garage, rated "B" on the Heritage survey and "1" on the City Survey. Two buildings rated "C" on the Heritage Survey would be demolished; these buildings are the San Francisco Health Club (227-31 Ellis St.) and the Woodfield Building (135-147 Mason St.). Two buildings rated "D" on the Heritage Survey would also be demolished; these buildings are the Chez Paree (115 Mason St.) and the building at 281 Ellis St.

A total of five "C" rated buildings on the Heritage Survey would be rehabilitated. On-site, these buildings are the Crystal Hotel (not rated on the City Survey), the Empress Hotel (rated "0" on the City Survey), the El Don Apartments (not rated on the City Survey), and the apartment building at 250 Taylor St. (not rated on the City Survey). Off-site, the Hotel Zee on Lot 18, Assessor's Block 340 (not rated on the City Survey) would also be rehabilitated.

VISUAL ASPECTS AND URBAN DESIGN

Heights of the project towers would be 190 feet (Taylor Tower), 260 feet (Mason Tower), and 320 feet (Ellis Tower). The numerous setbacks and tapering of the project (see Figure 3, p. 14) would provide a visual transition from the existing and approved large-scale hotel structures to the north and east of the site to the smaller-scaled structures to the south and west of the site.

The lower level facades of the project towers (podium levels) would be faced with a different material than the upper portions of the towers. It is planned that the podium levels would use concrete or stone, while the upper levels would be faced with glass and steel. This juxtaposition of different textures is intended both to reduce the apparent bulk and mass of the towers and to relate different sections of the towers to their uses and to neighboring buildings. The podium levels of the Taylor and Ellis Towers would be used for office space while the upper levels would have residences. There would be a six-foot setback between the contrasting surface textures on the Mason Tower, while the Taylor Tower would have a six-inch setback and the Ellis Tower would have a four-foot setback between textural planes on their facades.

Although the project towers would contrast with the pattern of small-scale buildings in the Tenderloin neighborhood, the lower floors of the towers have been designed to reflect the scale and architectural style of the older buildings through the use of similar materials, and design details. Existing buildings on the project site generally have masonry facades. On the whole, there is a fixed proportion between window bays and building facade (voids vs. solids) in older structures. The consistent and often symmetrical proportions of windows, doors and ornamentation give an orderly appearance to the facades of older buildings. The project's podium level facade would likely be faced in pre-cast concrete to blend in with the adjacent masonry construction. The color of the podium levels would likely be similar to the light-brown and beige color of older buildings. The proportions of window bays to building facade on the podium levels, however, would differ from those in older buildings, allowing for greater expanses of glass for the lower level project uses. There would be rustication (masonry in which the principal face of each stone is rough, with a margin tooled smooth along its rectangular edges) on all podium level facades, to continue the textural pattern set by older buildings. Furthermore, the buildings to be rehabilitated and retained on Taylor St. would be visually integrated into the project by the continuation of the existing cornice lines into the new structures.

Street-oriented retail uses would be located on the ground level of all three towers and retained in the existing buildings on Taylor and Eddy Sts.; street trees would be planted around the entire project block, providing pedestrian interest and visual amenities. Vehicular ingress and egress to/from the parking garage entrance and exit ramps on

Mason, Taylor and Eddy Sts., and the porte cochere entrance to the hotel at the corner of Ellis and Mason Sts., would create interruptions in these pedestrian amenities and sidewalk activities.

The project would contain a central landscaped courtyard located one level above Ellis St., accessible from the street by stairs, escalators and elevators. The courtyard would serve as the entrance to the office and hotel uses and would provide light and air to the existing residential hotels and apartments. It would be visible from the hotel's main lobby, restaurant and cocktail lounge, the existing residential hotels, and the surrounding office space, but not from the street.

The project would be partially visible from sections of neighboring streets, buildings fronting on those streets, some downtown highrises, and structures on higher ground to the northwest and north (see Figure 25, p. 78). The project would not be visible from Russian Hill, but would be seen from portions of Nob Hill, the 5th St. corridor, Bayshore Freeway, and Twin Peaks (see Figures 25 to 28 on pp. 78 to 81). The project would block some views from the existing Hilton Hotel and the approved Holiday Inn, Hotel Ramada, and Hilton Tower No. 2.

When seen from a distance, the three towers of the project would be perceived as complementary forms. The varied heights and roof-lines of the project towers would contrast visually with the highrise buildings in the skyline (see Figure 3, p. 14); this visual appearance would be reminiscent of 1920's and 1930's skyscraper development in San Francisco. From distant vantage points, the cumulative visual effect of the proposed project and of existing and approved hotel projects in the immediate vicinity would be to intensify the density of development and visual identity of the area west of Union Square. Because of the relatively low elevation of this area, these structures, viewed from the west, would generally be seen against a background of higher ground or taller downtown structures and would not be a dominant element in the City skyline.

Table 7, pp. 82-85, summarizes the relationship between the proposed project and the Urban Design Element of the San Francisco Comprehensive Plan.

SOURCE
Whisler-Patri

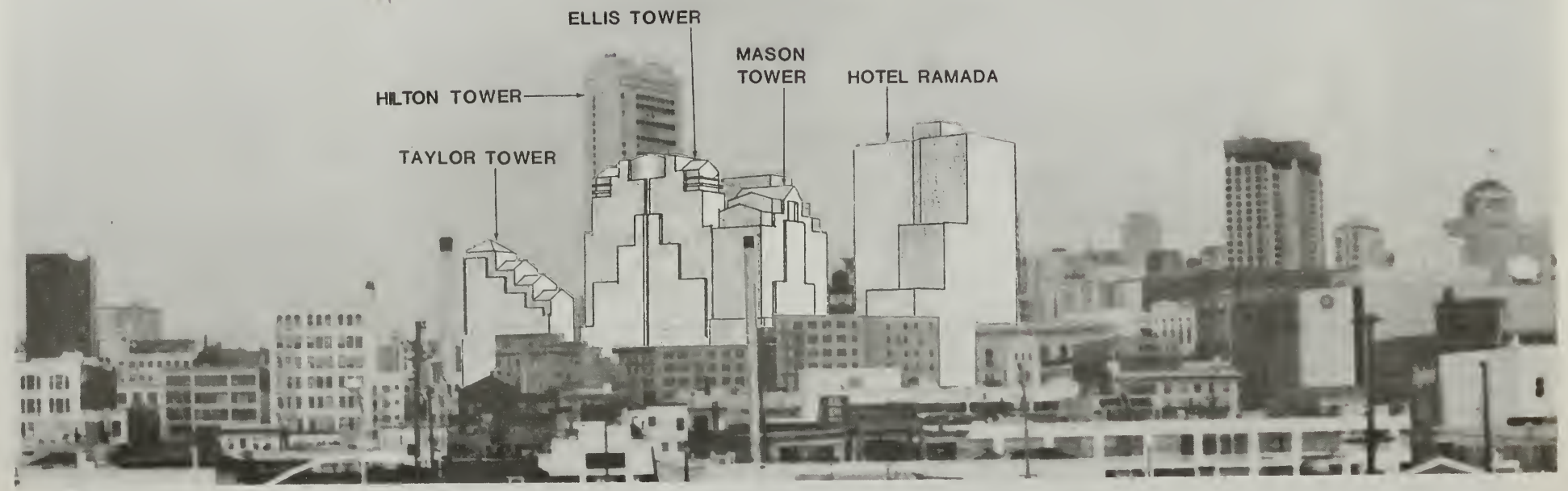
Block 331
MIXED USE DEVELOPMENT

FIGURE 25
View of the Project from Nob Hill

SOURCE
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

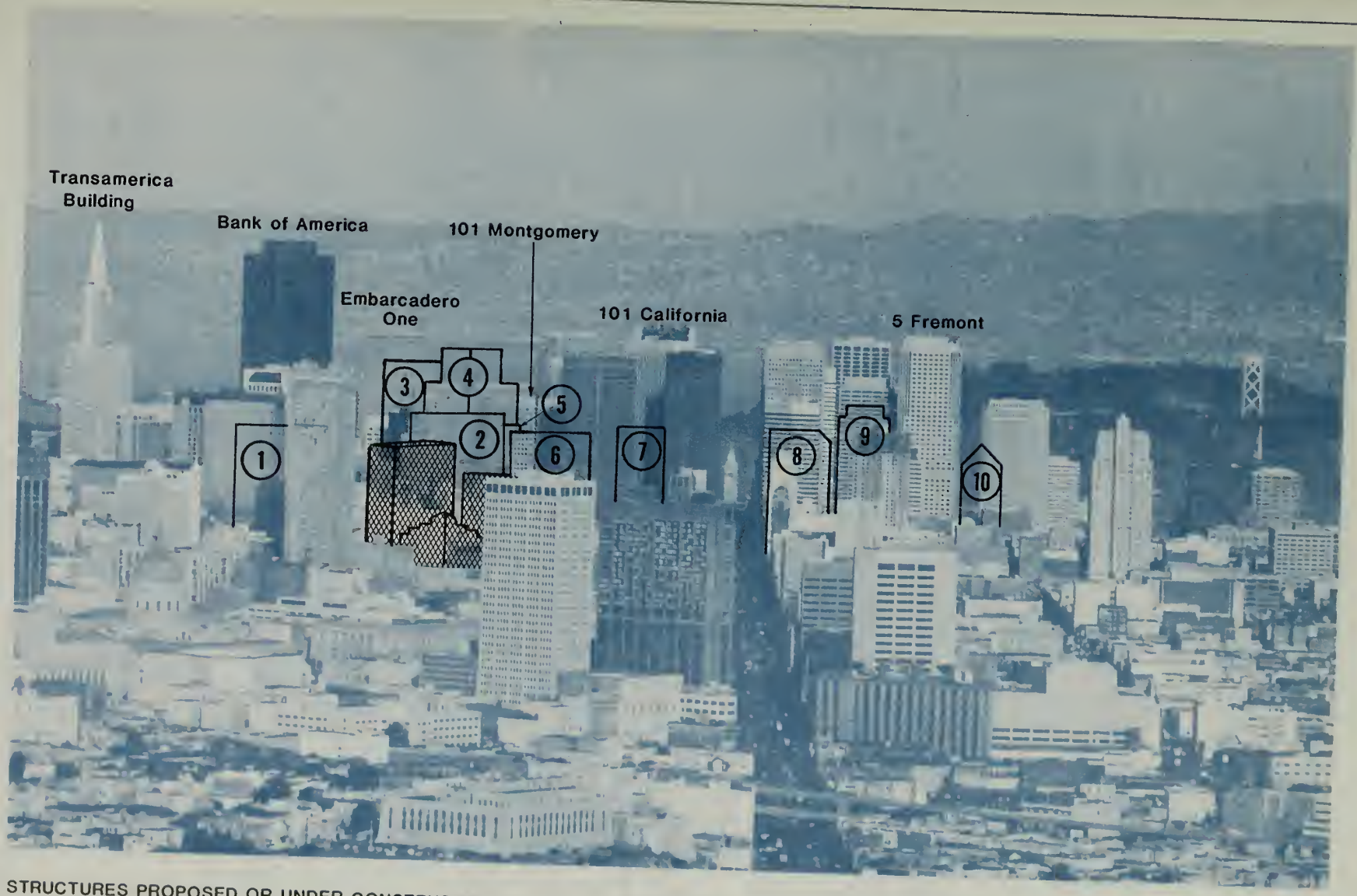
FIGURE 26
View of the Project from the 5th Street Off-Ramp of the James Lick Freeway



SOURCE
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 27
View of the Project from Bayshore Freeway (Southbound)



STRUCTURES PROPOSED OR UNDER CONSTRUCTION

1 Hilton Tower No.2
2 Holiday Inn
3 Russ Tower
4 333 Bush
5 222 Kearny
6 Hotel Ramada
7 S.F. Federal
8 New Montgomery Place
9 71 Stevenson
10 90 New Montgomery
PROJECT

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 28
View of the Project from Twin Peaks

TABLE 7: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO POLICIES
A. Policies for City Pattern	
Objective 1	
1. Policy 3. "Recognize that buildings, when seen together, produce a total effect that characterizes the City and its districts." (p. 10)	The project would extend highrise development into the Tenderloin District, and contribute to the spreading of high-rise development that extends from the Financial District to the Civic Center along and north of Market Street. Thus, the project would blur existing distinctions between separate centers of activity in the City; such as Union Square, the Civic Center, and the Financial District.
2. Policy 6. "Make centers of activity more prominent through design of street features and by other means." (p. 12)	At street level, the project sponsor would plant trees and associated landscaping.
3. Policy 8. "Increase the visibility of major destination areas and other points for orientation." (p. 13)	The three separate towers of the project would be visible from neighboring streets and buildings, as well as from several distant vantage points; primarily from the south and west. The project's towers with the proposed and existing highrise hotels in the vicinity would increase the visibility of this area.

* Department of City Planning, 1971, Urban Design Element of the Comprehensive Plan. Page references are shown in parentheses.

SOURCE: Environmental Science Associates, Inc.

TABLE 7: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO POLICIES
B. Policies for Conservation	
Objective 2	
4. Policy 4. "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development." (p. 25)	The project would require the demolition of five historically rated buildings in the Heritage survey: one building is rated "B", two are rated "C" and two are rated "D". Two of these five buildings are rated "1" in the Department of City Planning's survey. The project would rehabilitate five "C" rated buildings. None of the buildings to be demolished or rehabilitated is a designated landmark.
5. Policy 5. "Use care in remodeling of older buildings to enhance rather than weaken the original character of such buildings." (p. 25).	Three residential hotels, the Zee, Crystal, and Empress would be rehabilitated and placed back into use as low-income residential hotels. In addition, two apartment buildings (the El Don and 250 Taylor) would be rehabilitated for use as low-income rental units.
6. Policy 6. "Respect the character of older development nearby in the design of new buildings." (p. 25)	Lobby spaces for the lower floors of the project towers would be kept to a minimum in order to maintain continuous street facades. The Taylor Tower would continue the cornice lines of existing structures onto its facade. The proportions of podium windows to building facade and the spacing of those windows in the project's lower level would not be similar to those in the rehabilitated buildings. All project podium facades would have some rustication to continue the reticulated stonework on existing site buildings.

* Department of City Planning, 1971, Urban Design Element of the Comprehensive Plan. Page references are shown in parentheses.

SOURCE: Environmental Science Associates, Inc.

TABLE 7: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO POLICIES
C. Policies for Major New Development	
7. Policy 2. "Avoid extreme contrast in color, shape and other characteristics which stand out in excess of their public importance." (p. 36)	The project would be built from contemporary building materials: glass and steel on the upper levels and concrete or stone on the podium level. The color would likely be compatible with that of existing buildings (e.g., light brown). There would be a contrast between the podium level's textural materials and the tower's facade.
8. Policy 5. "Relate the heights of buildings to important attributes of the City pattern and to the height and character of existing development." (p. 37)	The project's towers would be much taller than surrounding older development, but compatible in scale with the Hilton Hotel across Ellis St. and the approved Hilton Tower No. 2, Ramada Hotel, and Holiday Inn. The design of the three towers would incorporate stepped, notched, and sloping rooflines, reminiscent of 1920's and 1930's skyscraper development. This would provide a building silhouette of differing heights and shapes. The project also represents a departure from the flat rooflines common to recent highrise construction.

* Department of City Planning, 1971, Urban Design Element of the Comprehensive Plan. Page references are shown in parentheses.

SOURCE: Environmental Science Associates, Inc.

TABLE 7: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN* AND THE PROPOSED PROJECT (Continued)

APPLICABLE URBAN DESIGN POLICIES	RELATIONSHIP OF PROJECT TO POLICIES
C. Policies for Major New Development	
9. Policy 6. "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (p. 57)	See item 8 above. The bulk of the towers would be similar in scale and massing to the nearby Hilton Hotel and approved hotel developments. However, the project's bulk would contrast with the small-scale residential and neighborhood uses in the Tenderloin. Seen from the south and west, the towers would blend somewhat together and appear as a large complex of differing building forms, lessening in height toward the surrounding buildings. The tapering of the towers would reduce the building mass in the upper levels. The juxtaposition of different textural materials on the project facade (see item 7) might reduce the apparent building mass.

* Department of City Planning, 1971, Urban Design Element of the Comprehensive Plan. Page references are shown in parentheses.

SOURCE: Environmental Science Associates, Inc.

WIND

The project would alter existing wind conditions by replacing low-rise structures with high-rise structures, resulting in a greater channeling of air flow./1/

The wind tunnel study described in the Setting section on p. 51 was also carried out with the proposed project in place. Receptors sensitive to wind conditions that were analyzed in detail include: the proposed Central City Park on Assessor's Block 332, Glide Memorial Church, the Airporter Bus Terminal and Hallidie Plaza. The results are discussed below.

West Winds

Upon project completion, the effective wind speed ratio would increase by about 49% on Ellis St. between Taylor and Mason Sts. and the mid-block acceleration-deceleration of wind would be worsened; however, the resulting wind speed ratios would remain moderately low. Wind speed ratios along Taylor St. between Ellis and Eddy Sts. would decrease by about 25%, and would increase by about 23% at the Eddy St. - Taylor St. intersection. The wind speed ratios on Taylor St., between Ellis and Eddy Sts., would decrease from moderately low to low, while those at the Eddy St. - Taylor St. intersection would remain at low and moderately low. A vertical vortex with a moderately low wind speed ratio would be formed in the proposed courtyard.

Wind speed ratios would decrease by about 13% at the Ellis St. - Fifth St. North intersection, reducing the wind speed ratio from moderate to moderately low, and by about 25% at Glide Church, reducing the wind speed ratio from moderately low to low. Wind speed ratios at other sensitive receptors, such as the proposed park (Assessor's Block 332), the Airporter Bus Terminal and Hallidie Plaza would remain low.

Northwest Winds

Northwest winds would create the greatest project wind impacts. A reversal in wind direction would occur on Eddy St. between Taylor and Mason Sts. An increase in the wind speed ratio of about 102% at the Eddy St. - Taylor St. intersection, would change its designation from low - moderately low to moderately low - moderate (see p. A-32 in Appendix B). A vertical vortex with low wind speed ratio would be formed in the proposed courtyard. The project would result in decreased wind speed ratios on Taylor St. between

Ellis and Eddy Sts. (by about 41%), lowering wind speed ratios from moderate to moderately low. Wind speed ratios would decrease at the Ellis St. - Taylor St. intersection by about 29%, at Glide Church by about 19% and on Ellis St. between Taylor and Mason Sts. by about 13%. These would all remain moderately low. Wind speed ratios at the proposed Central City Park on Assessor's Block 332, Airporter Bus Terminal, and Hallidie Plaza would remain low.

Southwest Winds

Wind speed ratios on both Eddy and Ellis Sts. between Taylor and Mason Sts. would increase from moderately low to moderate. A vertical vortex with a moderately low wind speed ratio would be formed in the proposed courtyard. The wind speed ratio would be decreased by about 16% at the Ellis St. - Fifth St. North intersection, though remaining moderate, and the vertical vortex on the open lot described in the setting would disappear. The wind speed ratio at the Ellis St. - Mason St. intersection would remain moderate. The wind speed ratio at Hallidie Plaza would increase about 14%, but remain moderately low.

The results of the wind tunnel study indicate that the project would increase pedestrian discomfort at times in the project vicinity due to changes in wind speed. Pedestrian discomfort is initiated at wind speeds of about 11 miles per hour (mph)./2/ On the basis of observed average wind speed ratios, average freestream wind speeds would have to exceed 30 mph before average street level winds of 11 mph could be achieved at any street-point measured in the study. The average hourly freestream wind speed would exceed 30 mph about 12% of the time. On summer afternoons at 4 p.m., when the average freestream wind speed is about 35 mph, the project would increase wind speeds, at seven locations, to or above the 11 mph comfort threshold (maximum 15.5 mph, at the NE corner of Taylor and Eddy Sts.). At the same times, the project would reduce wind speeds, at three locations, to below the comfort threshold (to 8 mph) or to a lower speed still above the threshold (maximum 14 mph).

SUNLIGHT AND SHADOW PATTERNS

The principal shadow impacts of the proposed development would be on the streets and sidewalks immediately adjacent to the project site, and on Assessor's Block 332, which is

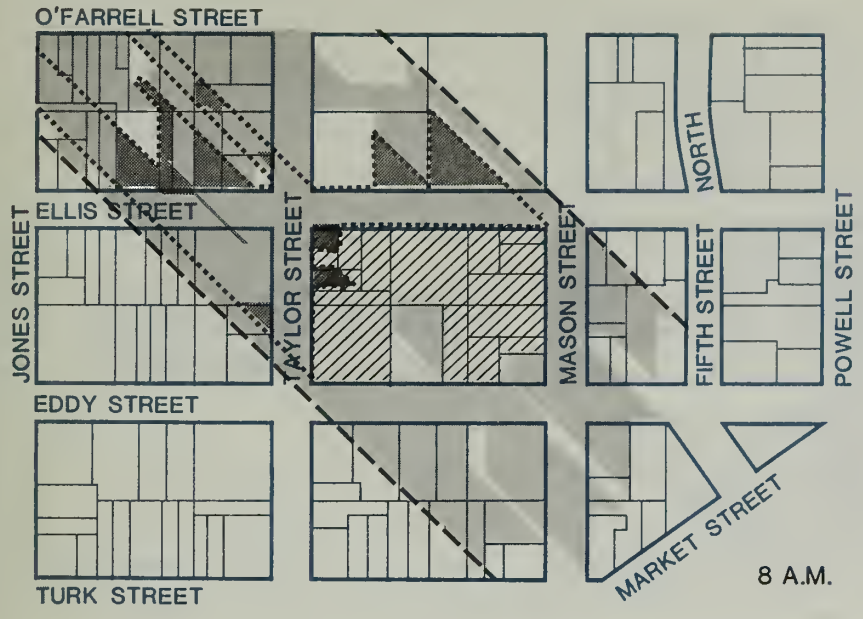
immediately west of the project. Buildings and uses on Assessor's Block 332 that would be shaded include the Airporter Bus Terminal (on the northeast corner of the block), the Hotel Ritz at 200-216 Eddy St., the 225 Taylor St. apartments and the planned Central City Park.

The portion of the proposed Central City Park fronting on Ellis St. would be almost entirely in shadow from February to May and from August to November, in the early morning hours. The proposed development would cause about half of this shadow effect, with existing structures shading the other half. Hallidie Plaza, bounded by Market St., Eddy St., and Fifth St. North, would not be affected by the proposed development at any time of year or day.

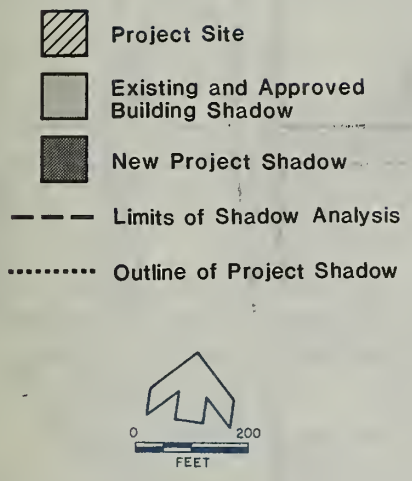
In December (see Figure 29, p. 89), neither surrounding streets nor the Airporter Bus Terminal would be newly shaded by the proposed development. During the winter months, long and extensive shadows from existing buildings are common downtown, because of the sun's very low angle in the sky. The development would cause Mason St., between Ellis and O'Farrell Sts., to be shaded, beginning at noon. This shadow would coincide with existing shadows after about 1 p.m.

December and January are generally the coldest months of the year in San Francisco, and it is during these months that passive solar heat through windows is most useful. The proposed project's main effect in the winter would be to shade window and roof areas of the existing Hilton Hotel and the approved Hilton Tower No. 2, Holiday Inn, and Ramada Hotels, and the roofs of nearby residential structures such as 225 Taylor St. and 344 Ellis St., on Assessor's Blocks 332 and 324, respectively. The Hilton Hotel complex, particularly the main hotel and annex, would have from 30 to 50% of its roof area in shadow, depending on the hour of day (see Figure 29). This blocking of sunlight could add to the heating loads of the William Penn Hotel and the Empress Hotel, as well as of the existing and proposed hotels mentioned above. This effect would be most pronounced on the existing Hilton Hotel, as it is located northerly of the proposed project.

During the vernal and autumnal equinox (March 21 and September 22, respectively; see Figure 30, p. 90), more street and sidewalk area would be newly shaded by the project than in the winter. With the sun at a higher angle during spring and fall, compared to the winter, existing low-rise buildings no longer shade as much street and sidewalk; this opens



Block 331
MIXED USE DEVELOPMENT



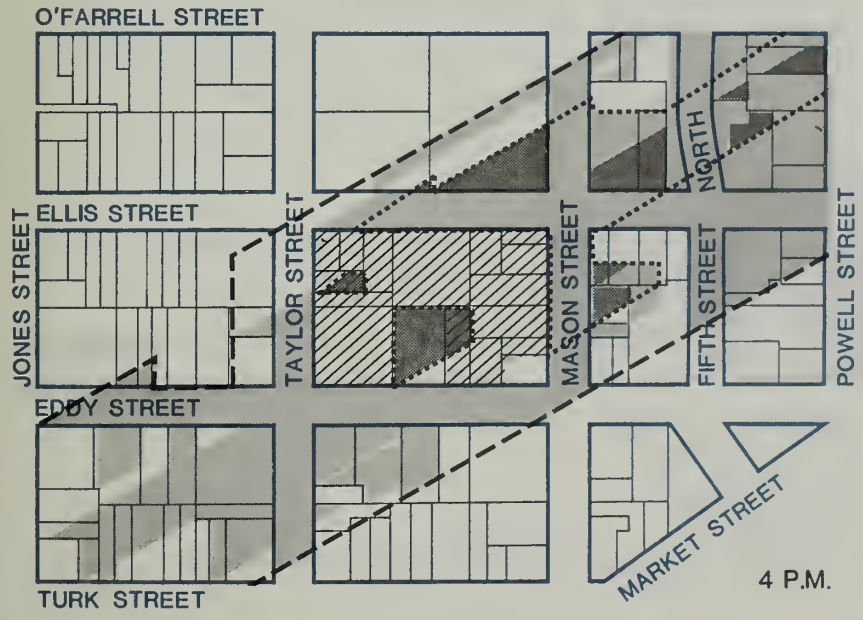
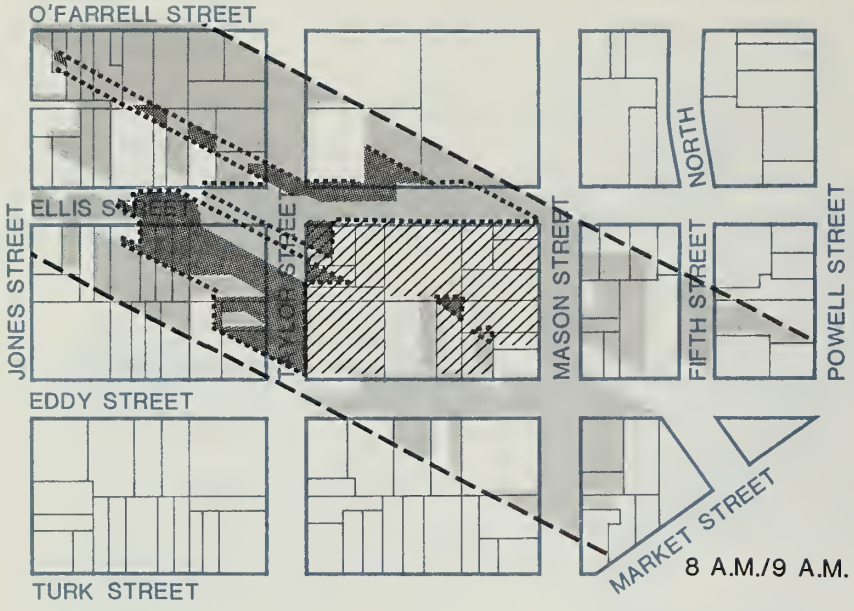
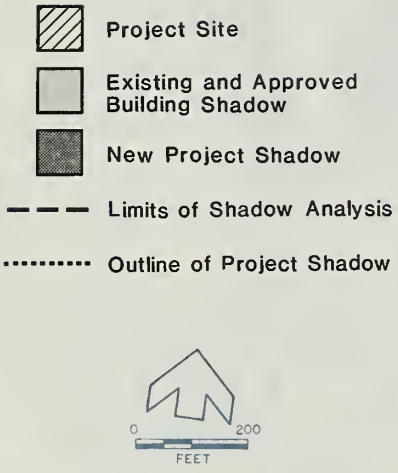


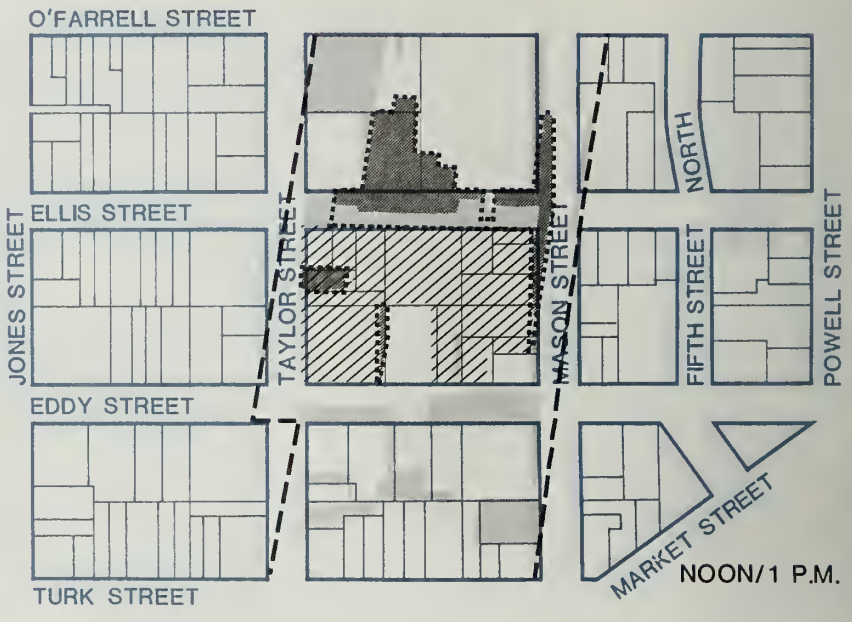
FIGURE 29
Shadow Studies - December

SOURCE
Environmental Science Associates, Inc.



Block 331
MIXED USE DEVELOPMENT





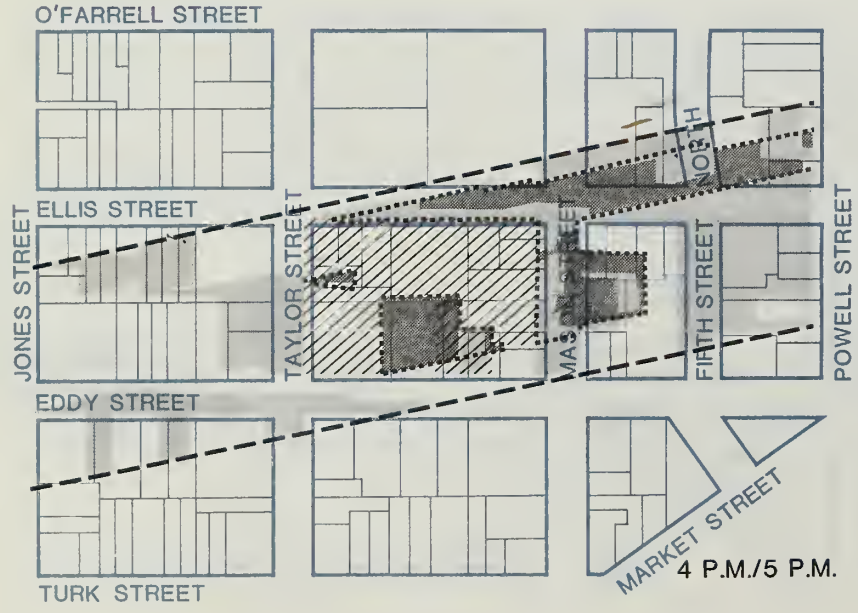


FIGURE 30
Shadow Studies - March/September

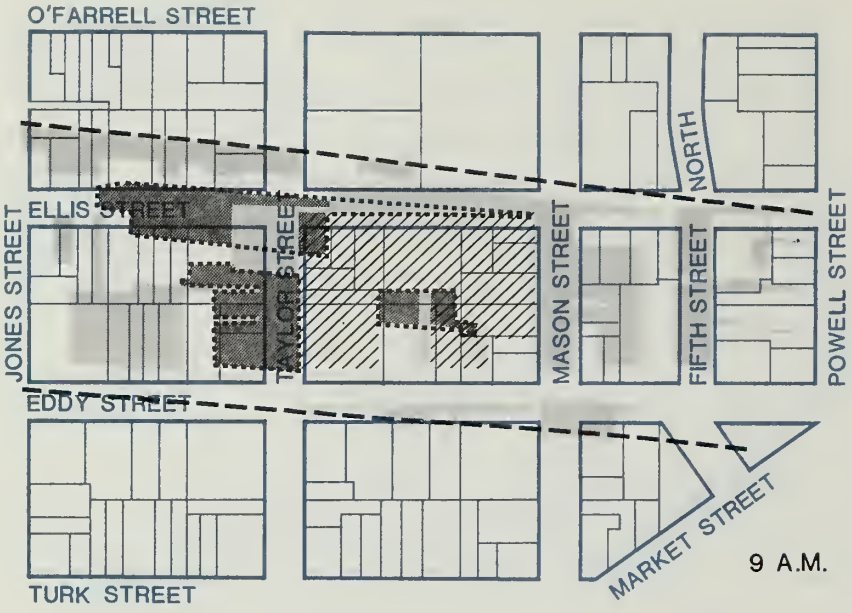
SOURCE
Environmental Science Associates, Inc.

up areas on which the project, with its high-rise towers, would cast shadows. In the early morning, a large portion of Taylor St. would be newly shaded. This shadow would disappear rapidly as the sun rose in the sky, as would a shadow on Ellis St. between Taylor and Jones Sts. As the afternoon progressed, the portion of Ellis St. north and northeast of the project would be newly shaded; currently, only the southern half of this segment of Ellis St. is shaded. Also, at 4 p.m., the project would shade the eastern sidewalk of Mason St., between Eddy and Ellis Sts.

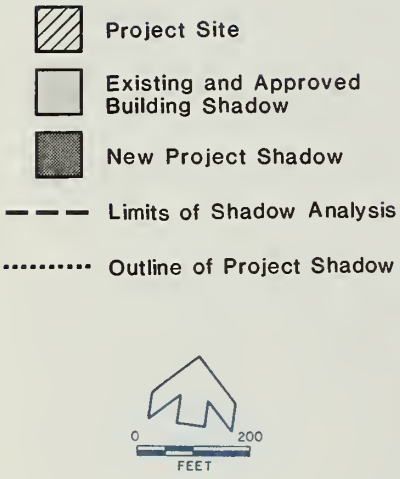
As Figure 30, p. 90 shows, the March and September 8 a.m. shadow would fall on a sizeable portion of open space fronting on Ellis St. The Airporter Bus Terminal, at the southwest corner of the Ellis - Taylor St. intersection, is part of this open space; it carries a steady volume of bus traffic, and tourists and other bus passengers waiting or disembarking. Although the early morning shadow on the Airporter Bus Terminal would quickly shorten and turn northeastward after 8 a.m. the atmosphere for bus passengers, most of whom are tourists, would be affected. This same morning shadow would extend to the northern portion of the proposed Central City Park, currently used as a parking lot. However, no project shadows would be cast on the proposed park later in the morning and in the afternoon, when the park would likely be more heavily used.

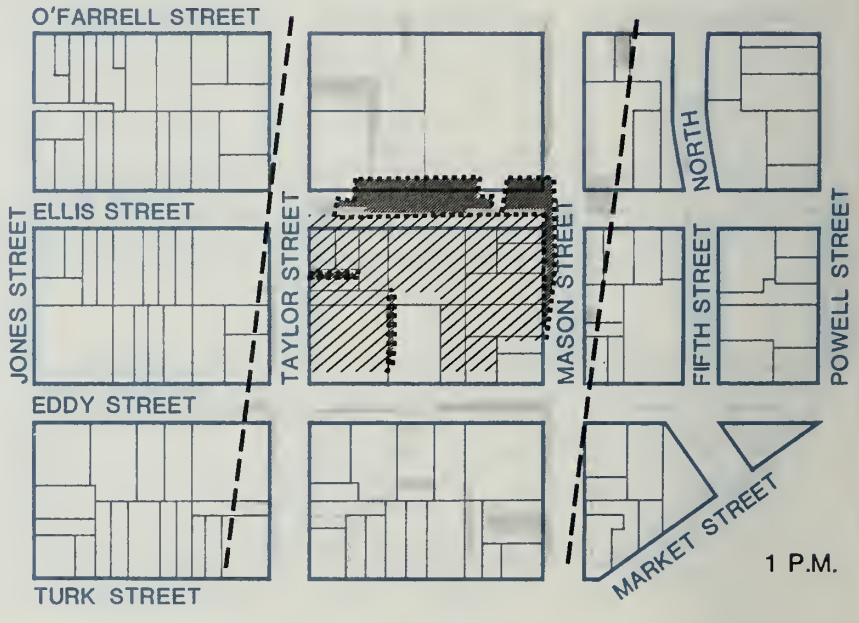
Comparison of the March/September morning shadow diagram with that of June (Figure 31, p. 92) shows that during the six months from March to September the proposed development would substantially shade the Airporter Bus Terminal and the northern section of the planned Central City Park. Between March and June, the morning shadow on the proposed park and on the Airporter Terminal would gradually shorten since the sun would be a little higher each morning during the spring. This process would reverse between June and September; that is, shadows due to the proposed development would gradually lengthen. In June, when the sun has the greatest amount of distance to "travel" across the sky, morning shadows move more quickly than at any other time of the year; by about 10 a.m. the project's shadows would move off these open spaces completely.

At noontime in midsummer, shadow impact on any structure is minimal, because of the sun's very high angle in the sky. Nevertheless, the Ellis and Mason Towers, because of their heights, would cause shadows across Ellis St. at mid-day. These shadows would



Block 331
MIXED USE DEVELOPMENT





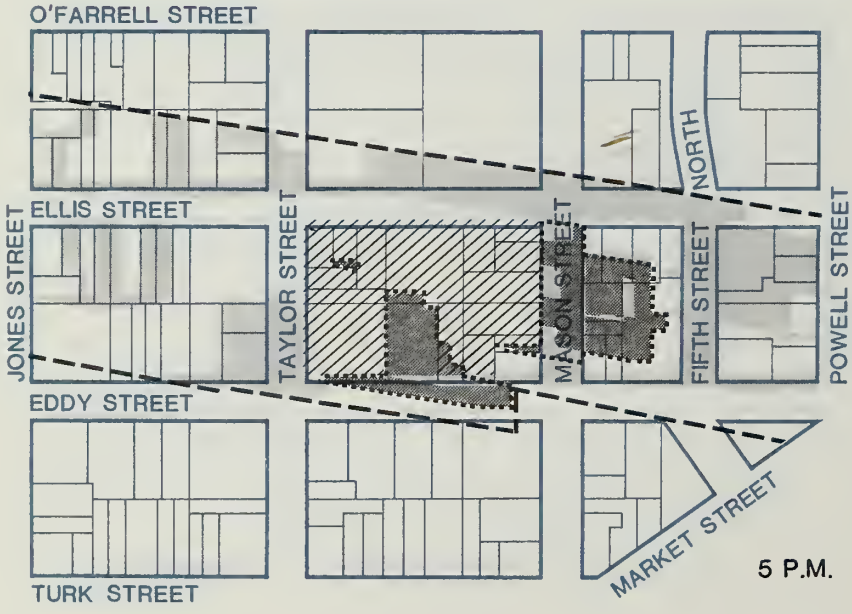


FIGURE 31
Shadow Studies - June

SOURCE
Environmental Science Associates, Inc.

advance eastward on Ellis St. until about 2 p.m., when they would newly shade a portion of Mason St. The effect on Mason St. at 4 p.m. in June would be similar to the effect in March and September: its sidewalk area on the Ramada Inn side would be in shadow in the mid to late afternoon most of the year. The June afternoon shadow would extend south of the development to Eddy St., but at 4 p.m. the project would not newly shade a significant portion of Eddy Street's northern sidewalk.

NOTES - Architectural Resources, Visual Aspects, and Urban Design

/1/ This section is based on a report entitled "Initial Wind Tunnel Study, Project: Block 331 Mixed Use Development," September 1982, prepared by Bruce R. White, Ph.D., as a subconsultant to Environmental Science Associates, Inc. A copy of this report is on file at the Office of Environmental Review, 450 McAllister Street, 5th Floor. The methodology of the study and wind flow diagrams are included in Appendix B, p. A-29.

/2/ Donald Ballanti, Consulting Meteorologist, telephone conversation, May 4, 1982.

C. EMPLOYMENT, HOUSING, AND FISCAL ASPECTS

EMPLOYMENT

The project would provide about 1,340 permanent full-time jobs on site, a net increase of approximately 1,280 jobs. The employees in the existing buildings would be displaced; businesses in these buildings include a restaurant/bar, a health club, an adult theatre, a bank processing department, and public parking facilities. Approximately 65% of the new employees would hold office jobs, 20% hotel, 10% retail and 5% parking and maintenance. The complete distribution of project employees is presented in Table 8, p. 94. Through the multiplier effect, secondary employment and income would result from permanent project employment; each employed person would generate additional employment through expenditures for goods and services. On the assumption that the project's 875 office jobs would be primarily in finance, insurance, and real estate (the FIRE sector), about 1,030 additional jobs in other sectors of the Bay Area economy would be induced./1/

Many of the direct jobs would provide employment opportunities for City residents. In recognition of the problems of underemployment and unemployment in the Tenderloin area, hiring priority in the hotel would be given to neighborhood residents over other

TABLE 8: PERMANENT EMPLOYMENT BY CATEGORY

Hotel*	Employees+	Percent
Housekeeping	70	
Laundry	15	
Restaurant/Lounge	75	
Engineering	15	
Administration/sales	20	
Clerks/Cashiers	20	
Bellpersons	10	
Accountants	5	
Security	5	
Management/Supervisory	35	
Total Hotel Employees*	270	20
Office**	875	65
Retail (including rehabilitated space)***	160	12
Parking and Maintenance****	35	3
TOTAL	1,340	100%

+Categories rounded to the nearest five employees.

* Distribution of hotel employees provided by Theme Resorts, Inc., letter, July 22, 1982. This letter is on file at the Office of Environmental Review.

** Office employment estimated as follows: 218,600 gross sq. ft. /250 sq. ft./ employee = 874. (Department of City Planning, "Office/Housing Production Program (OHPP) Interim Guidelines," January 1982.)

*** Retail employment estimated as follows: 44,700 gross sq. ft. (new)/400 sq. ft./ employee = 112; 20,300 gross sq. ft. (rehabilitated)/400 sq. ft. employee = 50; 112 + 50 = 162. (California Office of Planning and Research, Economic Practices Manual, January 1978, pp. 35-37.)

**** Parking and maintenance employment estimated as follows: 1,106,100 gross sq. ft. (sum of rehabilitated and new retail, office, residential dwellings, public open space and parking areas, excluding the new hotel)/30,000 sq. ft./employee = 37. (Highrise buildings generally employ 1 janitor/30,000 gross sq. ft., according to Roger Dillion, Secretary-Treasurer, Building Service Employees Union, Local 87, telephone conversation, April 17, 1980. This figure was also applied to the other uses specified above.)

SOURCE: Environmental Science Associates, Inc.

equally qualified applicants. The sponsor would require the hotel operator to provide training programs, mostly on-the-job, and equal opportunities for advancement. The sponsor would seek the assistance of a non-profit neighborhood organization to pre-screen applicants and verify place of residence.

As the proposed hotel and retail commercial uses would provide new employment opportunities for unskilled and semi-skilled workers, the project would address Objective 3, Policy 1 of the Commerce and Industry Element, which is to promote the attraction, retention and expansion of commercial and industrial firms which provide employment improvement opportunities for unskilled and semi-skilled workers.

Salaries of project employees would vary according to job classification, level of experience, and whether the position was union or nonunion. According to the project sponsor, hotel employees would join a union and would receive average annual salaries ranging from about $7,500 (exclusive of tips) to about $37,000 and would average about $19,600 (all in 1982 dollars). These projected salaries are higher than salaries known for other hotels./2/ The median income of office employees would be about $27,300./3/ The median income of retail employees in San Francisco - Oakland was about $13,700 in August 1981./4/ The incomes of parking and maintenance employees would probably be similar to those of retail employees. These assumptions about employees' income affect projections of housing affordability, payroll tax revenues, and sales tax revenues.

The project would require about 685 person-years of construction labor, an average of about 275 full-time jobs over the 30-month construction period. About 1,470 additional person-years of employment would be generated in the Bay Area as a result of the multiplier effect of project construction./1/ The project sponsor would require the general contractor and all sub-contractors to give first hiring preference to all qualified union applicants who are Tenderloin residents. The minority hiring goals would be 33% to 50% of the construction workers, depending on the construction trade. The Apprenticeship Opportunities Foundation, a nationwide affirmative action organization that assists minority entrance into apprenticeship programs and other blue-collar occupations, would work with community groups to recruit qualified area and minority applicants. The Foundation would verify applicants' place of residence, minority status, and job qualifications.

HOUSING

As indicated in the discussion on pp. 93-95, the project would result in the generation of about 1,340 full-time jobs, a net increase in on-site employment of approximately 1,280 jobs. To the extent that the project would attract out-of-area employees and contribute to the formation of additional households by existing area residents, it would also contribute to increased local housing demand and a jobs/housing imbalance.

Residency patterns for new office employees generated by the project are based partly on interim guidelines issued by the San Francisco Department of City Planning in "Office/Housing Production Program" (OHPP), January 1982, and partly on approximate residency patterns of downtown office employees surveyed for five other recent Downtown EIRs (see Appendix E, Table E-1, p. A-67). The OHPP formula for calculating housing demand caused by office projects assumes that 40% of office workers for each project would move to San Francisco, that there would be one employee per 250 gross square feet of office space, and that there would be 1.8 office workers per household. Based on this formula, the project would generate a gross demand for about 195 housing units in San Francisco./5/ Net housing demand, obtained by subtracting the existing office floor area on the site from office space proposed in the project,/6/ would be about 190 units. The project includes 370 new housing units, exceeding the net housing unit demand (190) calculated under the OHPP formula.

The OHPP formula does not encompass hotel, retail, parking, and maintenance employees who would be included in the project. No formula exists to estimate the demand for housing of these types of employees. City policy does not require developers to mitigate the housing demand of non-office employees.

Another method recognized by the City for estimating housing impact in San Francisco assumes that between 15% and 30% of new office employees would be expected to move to San Francisco, and each household would be occupied by 1.4 workers./7/ Under these assumptions, the project would result in a housing demand for about 90 to 180 new households in San Francisco. The approximate number of new households to be generated outside of San Francisco as a direct result of the project would be about 120 on the Peninsula, 195 in the East Bay, and 80 in the North Bay (see Appendix E, Table E-2, p. A-68). The 370 new dwelling units would exceed the 90 to 180 net housing demand calculated under this method.

In addition to the 370 new housing units, the project would retain and rehabilitate the Empress, Crystal and Zee (the Zee Hotel is off-site) residential hotels (about 255 rooms) and the El Don and 250 Taylor St. apartments (about 60 units). Ground-level retail stores in these buildings would also be rehabilitated.

The 28 existing dwelling units in the Diamond Hotel and six apartment units in another building would be demolished. Demolition of the Diamond residential hotel would be subject to the conditions contained in the Residential Hotel Conversion Ordinance (81-331). Mitigation measures such as relocation assistance and monetary compensation to hotel and apartment residents are addressed in Section V, Mitigation Measures, pp. 146-148.

HOUSING AFFORDABILITY

Research performed in housing analyses for recent San Francisco EIRs has concentrated on downtown office workers. Other office building workers (e.g., retail, maintenance, and security employees) and hotel workers have been excluded from housing analyses because many such jobs are entry-level or moderate-income and available to existing or unemployed San Francisco workers, and because City policy outlined in the "Office/Housing Production Program Interim Guidelines" (January, 1982) requires project sponsors to mitigate housing impacts based exclusively on the amount of office space. Most data available on residency patterns, incomes, and other information needed for housing analyses are most directly relevant for office workers and not for other categories of new employees.

Housing market impacts of new office employees are discussed in detail in Appendix C prepared by Recht Hausrath Associates, Urban Economists, for the 101 Montgomery Street Final EIR./7/ That appendix contains estimates of new office employees (due to a new office building), their demand for housing, and the distribution (by county) of this demand. Information allowing the disaggregation of this demand by type of housing (e.g. ownership, rental, price ranges) is not contained in the Recht Hausrath report.

In order to determine precisely the housing affordable to households created by a specific increase in San Francisco office space, the following factors must be considered: 1) the number of new households generated as a result of the increase in office space; 2) the location preference of these households; and 3) the ability of these households to pay for housing.

Precise quantification of project impacts on the housing market is not possible based on available published information, for the following reasons.

A study of the "Feasibility of Performing a Housing Affordability Analysis" by Questor Associates (June 15, 1982) concludes that household income of project employees, distribution of housing demand, and magnitude of new demand can only be precisely determined by surveying occupants of buildings comparable to a particular office project./8/ Such a survey would be complex and may not reveal all of the data that would be necessary for a complete analysis. First, it is not possible to simply survey prospective tenants because not all of the employment attributable to the project would be located within the project. As new office space would be primarily occupied by the expansion of existing San Francisco businesses that would relocate, most workers on the site would already be employed in San Francisco./7/ Housing demand attributable to the project must be projected based on net new employment generated by the project that would be distributed throughout San Francisco.

Second, new employment growth due to the project would occur as new jobs were created in older buildings which would be vacated by workers (or firms) moving to the project. As tenants for the project are not known, it is impossible to predict which buildings would be vacated for the project (and which buildings would then be vacated to fill the former level of vacated space, etc.). Even if tenants of the project office buildings were known, the same difficulty of determining all the ramifications of tenant movement would apply. For the above reasons, it is not possible to precisely quantify new employees due to the project, and their incomes.

The projected regional distribution of project employees is contained in Appendix E, Table E-1, p. A-67. Where an employee will live is the result of individual decision-making. Such decisions are a function of location preference and housing economics of individual households. Preference information is complex, involving many factors, such as number of bedrooms, type of neighborhood, family composition, and commute distance to work. Information concerning housing preferences may be obtainable through surveys of new office workers if these individuals could be identified.

On the assumption that the number of new employees and their preferences for housing were known, the most critical variable affecting the housing affordability analysis would

then be a new household's ability to pay for housing. The salary of new workers alone is insufficient to determine housing affordability; for example, the total income of all members of the new worker's household must be known. A variety of published sources give salaries for various occupational categories, but no comprehensive data exists regarding the distribution of household income among office workers (or any other group of workers). City-wide household income estimates based on the 1980 Census will be available late in 1983, but this data source will not reflect household income of downtown office workers.

Factors that determine housing affordability for an individual household include the ratio of housing expenses to income and the down payment for home-ownership. The ratios of housing expenses to income, according to the "Office Housing Production Program (OHPP) Interim Guidelines", January 1982, are 30% of household income for rental expenses and 38% of household income for home-ownership expenses. The down payment for home-ownership may be assumed to be between 10% and 20% of purchase cost; however, a household's ability to afford a down payment would depend on household assets and liabilities, and would vary widely for different households. Assumptions regarding mortgage interest rates must also be made. Because of the fluctuating interest rates in recent years, an affordability analysis based on current market interest rates may not be relevant when the project is completed and occupied.

Based on available data, an approximation of the housing affordability analysis for office workers appears in Appendix E, Table E-3, pp. A-69 and A-70. Data in Table E-3 rely on published sources of office worker incomes (not household income), and prices of housing (without regard to housing availability). No assumptions are made regarding the distribution of individual or household incomes. Assumptions are made regarding ratio of housing expenses to income, mortgage interest rates, and down payments. Analysis based on these data and assumptions indicates that most project employees would not be able to afford ownership housing in San Francisco, although some office worker households, depending on the number of workers per household, would be able to do so. Most office employees, except the lowest-paid clerical employees desiring to live alone, would be able to afford rental housing in San Francisco.

This analysis would apply similarly to other categories of workers employed within the project site. Incomes of non-office workers (hotel, retail, maintenance and parking employees) at the project would range from about $7,500 (exclusive of tips) to about $37,000 and would probably average about $17,100. With this range of incomes, these workers could afford between about $190 and $925 per month for rent or monthly mortgage payments (assumes 30% of the workers income); the average would be about $430. As described above, this range is oversimplified because it considers neither the incomes of other household members nor household circumstances.

The available data indicate that office employees generally have higher wages than workers generated by other categories of land uses being contemplated within the project. It seems probable that non-office project employees would generally be less able to afford ownership housing than would office workers. A greater proportion of non-office employees would probably enter the rental housing market than would office employees.

The project would include 371 residential condominiums, distributed as follows: 68 studio units, 234 1-bedroom units, and 69 2-bedroom units. These units would range in price from $151,800 to $253,000 and would average about $225,900 (1982 dollars). Based on 30-year fixed-rate mortgages with 15% interest rates and a 20% downpayment, monthly mortgage payments would range from about $1,540 to about $2,560 and would average about $2,290. If 30% of gross income is allowed for mortgage expenses, required annual household income would range from about $61,000 to about $102,000 and would average about $91,000 for condominium purchasers. Most project employees in single-wage-earner households would not be able to afford these condominiums. Depending on their incomes, households with two or more wage earners would more likely be able to afford these condominiums. Nonetheless, most households with employees working at the project site would not be able to purchase the condominiums.

The project would also rehabilitate about 255 residential hotel units that would rent for about $150 per month (1982 dollars) and about 65 apartments that would rent for about $275 per month (1982 dollars). If 30% of gross income is allowed for rental expenses, the rehabilitated residential hotel and apartment units would require annual incomes of about $6,000 and $11,000, respectively. Prospective tenants of the rehabilitated resident hotel

and apartment dwellings must meet the qualifications as prescribed in the HUD (U.S. Department of Housing and Urban Development) Section 8 Housing program guidelines.

HOTEL

The project would increase the supply of hotel lodging by about 450 rooms, representing about 2% of the City-wide supply. The sponsor judges that future demand will be sufficient for the hotel to achieve profitable occupancy. A decline in the tourism business in 1981 and the summer of 1982 resulted in lower average occupancy rates than in 1980./9/ With the increasing supply of hotel rooms resulting from hotels that are proposed and under construction, the oversupply of hotel rooms in San Francisco is possible. The likelihood of this occurrence is not possible to forecast, because of the uncertainty of the future economic conditions. Further discussion of the economic impacts of the proposed hotel is contained in Growth Inducement, pp. 143 to 145.

CUMULATIVE AND INDIRECT EFFECTS

Downtown Office Space

The proposed project, together with (included in) other major downtown office buildings which are under formal review (4.0 million square feet), have been approved (5.9 million square feet), and are under construction (8.9 million square feet) would add about 18.8 million square feet of office space if all were to be built (see Appendix C, Table C-2, pp. A-53 to A-55). With subtraction of 1.5 million square feet of existing space that would be demolished for new buildings, a net of 17.3 million square feet would be added. If all 17.3 million square feet of net office space were to be completed by 1990, there could be a short-term cumulative impact of oversupply while the market adjusts itself to absorb the new space. During this period, commercial rents may decline, especially in the core of the downtown area, and vacancy rates may rise. The number of proposed new office developments could decline if there were not sufficient demand for office space currently planned or under construction, and for office space that will become available as existing leases expire. The overall effect of this slowed growth rate in downtown office development would be to relieve pressure for replacement of older buildings with new ones, and for conversion and rehabilitation of existing low-intensity retail, warehouse and industrial use for office use, most notably in the South of Market area.

Housing

The relationship between downtown office growth and housing demand in San Francisco was documented in a report prepared by Recht, Hausrath and Associates, Urban Economists, that appears as Appendix C, pages 289 through 329, of the 101 Montgomery Street Final EIR, certified by City Planning Commission Resolution 8941, May 7, 1981. This report is available for public review at the Office of Environmental Review, 450 McAllister Street, 5th floor, and is hereby incorporated by reference into this EIR pursuant to Section 15149 of the California Environmental Quality Act (CEQA) guidelines. In summary, this document states that relatively high wages and employment opportunities are attracting people to San Francisco, but many people cannot afford the high housing costs in the City. The report estimates the residency patterns of new households (attributable to a new high-rise office building), and discusses various employment growth assumptions and their housing market implications.

The project would increase new office space by 210,600 gross square feet. With a cumulative total of about 17.3 million gross square feet of net new office space which is now under construction, approved, or under formal review in San Francisco (see Appendix C, Table C-2, pp. A-53 to A-55), the increase in office space from the project would be about 1.3% of the total net new office space.

If the assumptions used and explained in the 101 Montgomery Street Final EIR were applied to the new employees generated by cumulative office development described above, there would be a demand for between 7,400 and 14,800 new households in San Francisco.

If the assumptions used in the formula prescribed by the OHPP interim guidelines of January 1982 were used, about 15,300 new households attributable to cumulative office space development would be added to the housing demand in San Francisco. (Projections of new households are based on 17.3 million gross square feet of net new office space, which includes all projects listed in Appendix C, Table C-2, pp. A-53 to A-55. The regional employment and housing projections shown in Appendix E, Table E-1, p. A-67, exclude employees in existing buildings to be demolished, on the sites of the proposed towers.

This impact on the housing market would be mitigated to a certain extent because various office developers, including the project sponsor, have agreed to provide units, through City Planning Commission final motions of approval resolutions, or have proposed units on-site./10/

Cumulative office development would increase the City's current high ratio of jobs to housing supply. Housing demand would increase in an already tight housing market. In market situations where demand surpasses supply, prices can be expected to increase. Factors independent of office development and outside the control of the City, e.g. immigration, interest rates, state and federal tax policies, and economic trends, also influence the housing market. Subsequently, quantification of the effects of cumulative office development on San Francisco housing prices is not possible.

The new demand could be accommodated through additions to the housing stock, increases in the number of office workers per household, and/or displacement of existing residents. Large additions to the San Francisco housing stock are not anticipated in the near future because the housing construction industry has declined due to high land and construction costs and high interest rates. Most of the easily developable and available sites have already been developed. Census data indicate that the number of people per household has historically been declining. This demographic trend will probably not reverse itself in the next few years because of a variety of factors, including divorces and separations, departure of young adults from families, and the increasing proportion of elderly population. The possibility exists that gentrification -- the replacement of low-income households by more-affluent ones -- could occur./11/

FISCAL ASPECTS

Revenues to the City

The project would have a fair market value of $109,000,000 (including the Hotel Zee) in 1982 dollars. Under the 1982-83 property tax rate of $1.17 per $100 assessed valuation (assessed value equals market value), the project would generate about $1,280,000 in property tax revenue. About $1,090,000 would be generated by the non-bond tax rate of $1 per $100 assessed value; of this amount, about $953,000 would accrue to the City's General Fund, a net increase of about $899,000. The complete distribution of bond and non-bond property tax revenue that would be generated by the project is shown in Table 9, p. 104.

TABLE 9: DISTRIBUTION OF PROPERTY TAX REVENUES, FROM PROJECT SITE IN 1985 (1982 dollars)

Agency	Ad Valorem Tax Rate	Percent*	Revenues**
City and County of San Francisco			
General Fund	0.874	74.7	$953,000
Open Space Acquisition	0.025	2.1	27,300
Bond Repayment	0.099	8.4	108,000
S.F. Community College District	0.014	1.2	15,700
S.F. Unified School District			
General Purpose	0.078	6.7	85,000
Debt Service	0.008	0.7	9,140
Bay Area Air Quality Management District	0.002	0.2	2,270
BART			
General Fund	0.006	0.5	6,890
Debt Service	0.063	5.4	68,500
TOTAL	$1.17	100.0	$1,280,000 ***

* Rounded to the nearest one-tenth percent.
** Rounded to three significant figures. Based on the 1982-83 composite tax rate of $1.17 per $100 of fair market valuation and an assessed valuation of $109,000,000.
***Rounded to the nearest ten thousand dollars.

SOURCE: San Francisco Controller's Office; calculations by Environmental Science Associates, Inc.

Commercial tenants of the proposed project would pay either the payroll or gross receipts tax, whichever is greater. On the assumption that all tenants would pay a payroll tax, an estimated annual payroll of about $29,800,000, /12/ and a tax rate of 1.5%, payroll tax revenues from the project would be about $380,000 (1982 dollars). The calculation of payroll tax revenue exempts about 15% of the employees from the tax because banks, insurance companies, and owners of businesses with tax liabilities of less than $2,500 are not required to pay business taxes (Ordinances 275-70 and 245-68). The owners of the

project would pay a 0.3% gross receipts tax on their rental income. The estimated total annual rental income (excluding the residential hotels) for the project would be about $5,700,000 (1982 dollars). Gross receipts tax revenue would be about $17,000.

Sales tax revenue would be generated by both employee expenditures and on-site retail sales. On the basis of an annual payroll of about $29,800,000, taxable expenditures would be about $1,300,000./13/ Based on annual sales per square feet of $120 for the new retail space and $60 for the rehabilitated retail space, taxable on-site sales would total about $6,200,000. Annual sales tax revenue to the General Fund from the 1.25% sales tax would total about $90,000 (1982 dollars).

Annual parking tax revenue to the General Fund resulting from the project would total about $198,000 (1982 dollars), based on annual parking receipts of about $1,320,000/14/ and the parking tax rate of 15%.

On the basis of annual hotel room sales revenue of about $11,900,000 and a 9.75% hotel room tax rate, the hotel portion of the project would generate about $1,160,000 in hotel room tax revenue (assuming 80% occupancy). Of this amount, approximately $291,000 (1982 dollars) would accrue to the City's General Fund. A complete distribution of hotel room tax revenues is shown in Table 10, p. 106. Future distributions of hotel tax revenue could change as the result of actions by the Board of Supervisors.

Annual direct revenue accruing to the General Fund after project completion and occupancy would total about $1,930,000. The net increase in direct revenue generated by the project would be about $1,780,000. This net increase in direct on-site revenues that would be generated by the project is shown in Table 11, p. 107.

COSTS

Muni

The estimated 1980-81 (most recent Muni estimate) net marginal cost (or increase in the deficit for Muni operations) per additional ride is $0.39./15/ The project would generate about 690,000 rides per year, which could generate a cost deficit to the Muni of about $269,000./15/ The project would help pay for this deficit through its contributions to the

TABLE 10: DISTRIBUTION OF HOTEL ROOM TAX REVENUES FROM THE PROJECT (1982 DOLLARS)*

	Percent	Revenues**
City's General Fund	25%	$290,800
Moscone Convention Center Construction	41%	477,000
Candlestick Park Bonded Indebtedness	5.1%	59,300
Low-income Housing in Yerba Buena Center Redevelopment Area	5.1%	59,300
Maintenance of Performing Arts - War Memorial Fund	7%	81,400
Convention Facilities Fund	7%	81,400
Publicity and Advertising Fund	9.8%	114,000
	100 %	$1,163,200

* Based on about $11.93 million in annual hotel room sales and a hotel room tax rate of 9.75%.
** Revenues rounded to the nearest $100.

SOURCE: Theme Resorts, Inc. and Environmental Science Associates, Inc.

General Fund. In the 1982-83 budget, 10% of General Fund revenues were allocated to Muni. On the basis of the total General Fund revenues that would be generated by the project, the contribution to Muni would be about $193,000 (1982 dollars) after project occupancy. On the basis of the marginal cost figures provided by Muni, the project, through its revenue contribution to the General Fund, would not offset the Muni deficit generated by the project and would result in a net deficit of about $76,000.

This conclusion should be qualified because the Muni deficit-per-mile figure is based on 1980-81 data, the marginal cost is based on all rides and not peak-period riders, and the total project-related deficit is calculated using only those workers who would use Muni as their primary mode of transportation, while excluding those workers who would use a combination of transportation modes, such as Muni and Southern Pacific.

TABLE 11: DIRECT NET TAX REVENUES GENERATED TO THE GENERAL FUND FROM THE PROPOSED PROJECT

Tax Category	Tax Rates (1982-83)	REVENUES Existing Site	REVENUES Proposed Project	Net Increase
Property Tax	74.7% of $1.17/$100 fair market value	$53,900	$953,000	$899,000
Payroll Tax	1.5% of gross payroll expenditures	negligible	380,000	380,000
Gross Receipts Tax	0.3% of total rental income	1,500	17,000	15,500
Sales Tax	0.125% of gross retail receipts	23,100	90,000	66,900
Parking Tax	15% of gross receipts	72,000	198,200	126,200
Hotel Tax	25 % of the 9.75% tax on hotel room receipts	negligible	290,800	290,800
TOTAL*		$150,000	$1,930,000	$1,780,000

*Rounded to nearest $10,000

SOURCE: Environmental Science Associates, Inc.

Effective April 1, 1982, the Muni fare per ride was increased from $0.50 to $0.60. The increase was triggered primarily to meet the fare box revenue requirements of Assembly Bill (AB) 1107. AB 1107 allows Muni to receive a portion of the one-half cent BART sales tax revenue for operating expenses, provided that at least one-third of Muni's annual operating cost is paid from fare box revenues.

On April 27, 1981, the San Francisco Board of Supervisors approved an Ordinance (224-81) to assess new downtown commercial development to support Muni. The Ordinance called for levying a one-time fee of up to $5.00 per gross square feet upon construction of new downtown office space. The Ordinance, currently in litigation, would contribute funds for

Muni transit services, including operating costs and capital improvements. If the Ordinance is upheld, the project could generate up to about $1.1 million in one-time assessment revenues to Muni.

The assessment revenues would probably be treated as an annuity, paying a steady income and becoming depleted at the end of the buildings' useful life./16/ The annual proceeds from this project contribution would depend on the rate of interest earned by the fund. At an interest rate equal to the rate of inflation, annual revenues would be about $24,400 in 1982-83 dollars. If the interest rate exceeded inflation by 2.5%, annual revenues would be about $40,700 in 1982-83 dollars./17/ This added revenue from the one-time fee could partially offset the project's annual net Muni deficit of about $76,000. It should be noted, however, that the fee is being challenged in court and may not result in any revenues to the City if overturned.

According to a memorandum entitled "Muni's Plans to Accommodate Downtown Growth", issued by Dean Macris, Director of Planning, August 5, 1982, Muni expects to be able to meet projected cumulative demand due to downtown office development without new City taxes. According to the worst-case scenario in the memorandum, the San Francisco Railway Improvement Corporation, a non-profit corporation established in 1971 for the purpose of selling bonds for transit improvements, may have to raise about $111 million through the sale of bonds over a 10-year period to finance Muni expansion.

BART

In the 1982-83 fiscal year, the estimated net operating cost per passenger for BART is $1.05./18/ Based on about 93,000 rides per year, the estimated annual BART deficit attributable to the project would be about $97,700./19/ The project would generate a total of about $103,700 in revenues to BART, including about $75,400 in property tax revenues, and about $28,300 from the 75% of the 0.5% BART sales tax. This amount does not include the remaining 25% of the 0.5% BART sales tax revenue distributed among BART, Muni and AC Transit by MTC. After subtraction of BART's operating costs attributable to the project from BART's revenues (from sales and property taxes that would be generated by the project), the net operating surplus to BART attributable to the project would be about $6,000.

BART recently increased its base fare in order to increase fare-box revenues to fund the capital improvement plan. The estimated 1982-83 per-paid-passenger fare deficit will change as a result of the increase. The change in the net deficit per passenger resulting from the fare increase is not currently available./18/

Other Costs and Net Revenues

Costs to San Francisco for providing municipal services to the proposed project are difficult to estimate. Most research on new office development indicates that overall service costs per unit of service provided (per square feet or per employee) to the new building would be lower than for the existing buildings. (See Appendix E, Table E-2, p. A-68.) Reductions in per-unit costs are attributable primarily to improvements in fire and security protection systems in new construction. Costs for water, sewer, and solid waste disposal services would be paid through user charges. While costs per unit of service would not increase and may actually decline, total costs of servicing the site would rise because of the increases in retail office floor areas, hotel rooms, residents, and employment. These costs would be offset by net on-site revenue increases of about $2,000,000 to the General Fund.

CUMULATIVE EFFECTS ON CITY SERVICES

The project is part of approximately 17.3 million gross square feet of net new office space proposed, under formal review, or approved in downtown San Francisco. Such development would have the following impacts on city activities and public services: Water - On the basis of consumption of 125 gallons of water per day (gpd) per 1000 square feet of office space,/20/ cumulative office development would require about 2.16 million gpd. This would result in an increase of about 2.3% over the average daily water demand of 95 million gallons in San Francisco during fiscal year 1981-82./21/ The City does not anticipate any problems in meeting systemwide increases in water demand./21/ Wastewater - Cumulative office development would generate about 2.16 million gpd of sewage during dry weather, based on the above figures for water use. (For worst-case purposes, it is assumed that none of the water is used for landscape irrigation.) The Southeast Pollution Control Facility currently has excess treatment capacity, so that treatment facilities could accommodate this additional wastewater flow./22/ However, collection and transport facilities would probably need to be expanded./22/ Fire - A new

fire station and engine company would probably be needed to serve cumulative development, with a concomitant increase in personnel of about 15./23/ Maneuvering and evacuating office employees in the event of a major fire would be the greatest potential problem facing the Fire Department./23/ Police - Without site-specific information on each of the structures that together make up the 17.3 million square feet of net cumulative office development, impacts on Police Department needs and services cannot be determined./24/ Schools - The San Francisco Unified School District has experienced a steady and substantial decline in student enrollment since 1964, and could accommodate any students that might be generated by cumulative office development downtown./25/

NOTES - Employment, Housing and Fiscal Factors

/1/ Projections are based on an Input-Output Model of the Bay Area economy from Cooperative Extension Service, University of California, Berkeley, San Francisco Bay Area Input-Output Model 1967-1974, July, 1978. A multiplier of 1.18 was used for FIRE and 1.55 for construction.

/2/ See for example Hotel Ramada San Francisco Final EIR, EE 80.171, certified January 29, 1981. The annual salary for full-time workers was estimated to be $11,200 (1980 dollars).

/3/ The $27,300 income figure was derived by inflating the $16,300 median income of downtown office workers from the 1974 SPUR survey through December, 1981 by 67% using U.S. Bureau of Labor Statistics national wage information for non-supervisory finance, insurance and real estate sector employees since 1974.

/4/ California Employment Development Department, "California Labor Market Bulletin, Statistical Supplement," August, 1981.

/5/ OHPP formula:

$$\frac{218{,}600 \text{ gross square feet}}{250 \text{ gross square feet per employee}} \times \frac{0.40}{1.8} = 194.3$$

/6/ An estimated 8,000 gross square feet of existing office space would be demolished on the project site in the Bank of America Building, Lot 15 of AB 331.

/7/ Study prepared by Recht Hausrath Associates, Urban Economists, contained in 101 Montgomery Street FEIR, EE 80.26, certified May 7, 1981, Appendix C pp. 289-329.

/8/ Questor Associates, "Feasibility of Performing a Housing Affordability Analysis," June 15, 1982. This study is on file and available for public review at the Office of Environmental Review, 450 McAllister St., 5th floor.

/9/ Kirke Wrench, CPA Supervisor, Pannell Kerr Forster (Certified Public Accountants), telephone conversation, November 15, 1982.

/10/ The San Francisco Office/Housing Production Program, August 19, 1982.

/11/ Report of the Citizens Housing Task Force, San Francisco, July 29, 1982 and Berkeley Planning Associates, Displacement in San Francisco, September 2, 1980.

/12/ Total payroll calculations as follows:

hotel:	270 employees x $19,600 = $5,292,000
office:	875 employees x $25,000 = $21,875,000
retail:	160 employees x $13,700 = $2,192,000
park and maintenance:	35 employees x $13,700 = $479,500
total payroll:	$29,838,500

/13/ Taxable expenditures per office worker within the downtown were $715 per year based on income of $16,300 in 1974 (San Francisco Planning and Urban Renewal (now Research) Association (SPUR), Impact of Intensive High Rise Development in San Francisco, Detailed Findings, June 1975. The ratio of taxable expenditures to income was 0.0439.

/14/ Theme Resorts, Inc., "Financial Projections," September 24, 1982.

/15/ According to Bruce Bernhard, Muni Chief Accountant, telephone conversations, August 10 and 23, 1982, the average $0.39 deficit per mile is based on 1980-81 Muni budget figures of an additional cost per ride (marginal cost) of $0.71 and an average fare revenue per trip of $0.32. Muni is unable to provide more recent data on cost and revenue figures per passenger. Annual Muni ridership for project office workers = 874 employees x 29% ride Muni x 468 rides per year = 118,619; non-office annual Muni ridership = 570,000; total annual project Muni ridership = 688,619. The deficit due to the project would be: 688,619 rides per year x $0.39 deficit per ride = $268,561 annual Muni deficit. The 29% transportation modal split for office is taken from the Department of City Planning, October 1980, "Guidelines for Environmental Evaluation - Transportation Impacts." The 468 rides per year assumes 260 work days per year, 2 rides per day, and absenteeism of 10% (vacation, holidays and sick days).

/16/ Bruce Bernhard, Muni Chief Accountant, telephone conversation, August 24, 1981. Muni considers 45 years to be the useful life of an office building, in accordance with Internal Revenue Service Standards.

/17/ During fiscal year 1980-1981, the City earned about 12.5% on its money. During 1981-82 it earned about 14%. Inflation in the first period in the San Francisco-Oakland area was 10.5% and in 1981-1982 11.2% (Bureau of Labor Statistics, U.S. Department of Labor, "Consumer Price Indexes, Pacific Cities and U.S. City Average," June 1981). Thus, the difference between interest rates and inflation was 2% in the first period and 3.3% in the second. The 0% and 2.5% presented in the text represent what could be expected to be a minimum return and what might be an average return based on recent experience. (William Seaton, City Treasurer's Office, telephone conversation, September 15, 1982.)

/18/ Sy Mouber, Manager of Public Information, BART, telephone conversation, August 10, 1982. The $1.05 average cost per ride is based on all operating costs and revenues and does not include capital expenditures.

/19/ 93,000 rides/year x $1.05 = $97,650.

/20/ Brown and Caldwell, Consulting Engineers, Report on Wastewater Loading from Selected Redevelopment Areas, February 1972.

/21/ Ray Quan, Senior Engineer, San Francisco Water Department, telephone conversation, October 26, 1982.

/22/ J. M. de la Cruz, Senior Engineer, San Francisco Department of Public Works, Clean Water Program, telephone conversation, January 21, 1983.

/23/ Edward Phipps, Assistant Chief, Support Division, San Francisco Fire Department, telephone conversation, January 21, 1983.

/24/ James Farrell, Sargeant, Crime Analysis Unit, San Francisco Police Department, telephone conversation, January 21, 1983.

/25/ San Francisco Unified School District, Proposal for Leasing and Selling Vacant Property, April 29, 1980, p. 28.

D. TRANSPORTATION, CIRCULATION, AND PARKING

CONSTRUCTION TRAFFIC AND PARKING

The total construction period would be expected to last for about 30 months. Sidewalk and parking lane closures on all streets adjacent to the project site would be expected to last for about 28 months, eliminating one lane of parking on all four streets.

Access to the project site for excavation-spoil haul vehicles would be at the corner of Eddy and Taylor Sts. The probable haul route would be Interstate 280 to Sixth St. to Taylor St. Trucks exiting the site would be expected to use Eddy St., Fifth St., Harrison St. and Sixth St. to reach the Interstate 280 ramps. The probable disposal site would be in San Mateo County. Spoil haul operations would be expected to last from four to six weeks and could generate about 20 truck trips per hour throughout the work day.

Post-excavation construction, depending upon the type of foundation to be used, could require considerable truck traffic for delivery of construction materials. Construction of a mat foundation at the adjacent Hotel Ramada required approximately 1,100 truck trips during a one-day period (S.F. Chronicle, September 27, 1982).

Truck access (whether for spoils for construction-material hauling) to the site from Ellis St. would interfere with the operation of the Hilton Hotel loading dock. Potentially, parking on the north side of Ellis St. (opposite the project site) may need to be temporarily prohibited to prevent double-parked trucks, serving the Hilton Hotel, from

blocking Ellis St. during construction, when the parking lane on the south side of Ellis St. would be closed. Similarly, truck access on Mason St. would interfere with loading docks and the bus exit of the Hotel Ramada, which is now under construction (see Figure 32, p. 114.). The truck traffic would lessen the abilities of the haul route streets and the Sixth St. on-ramp to carry traffic, because of truck operational characteristics such as slower speed, slower acceleration and larger turning radii.

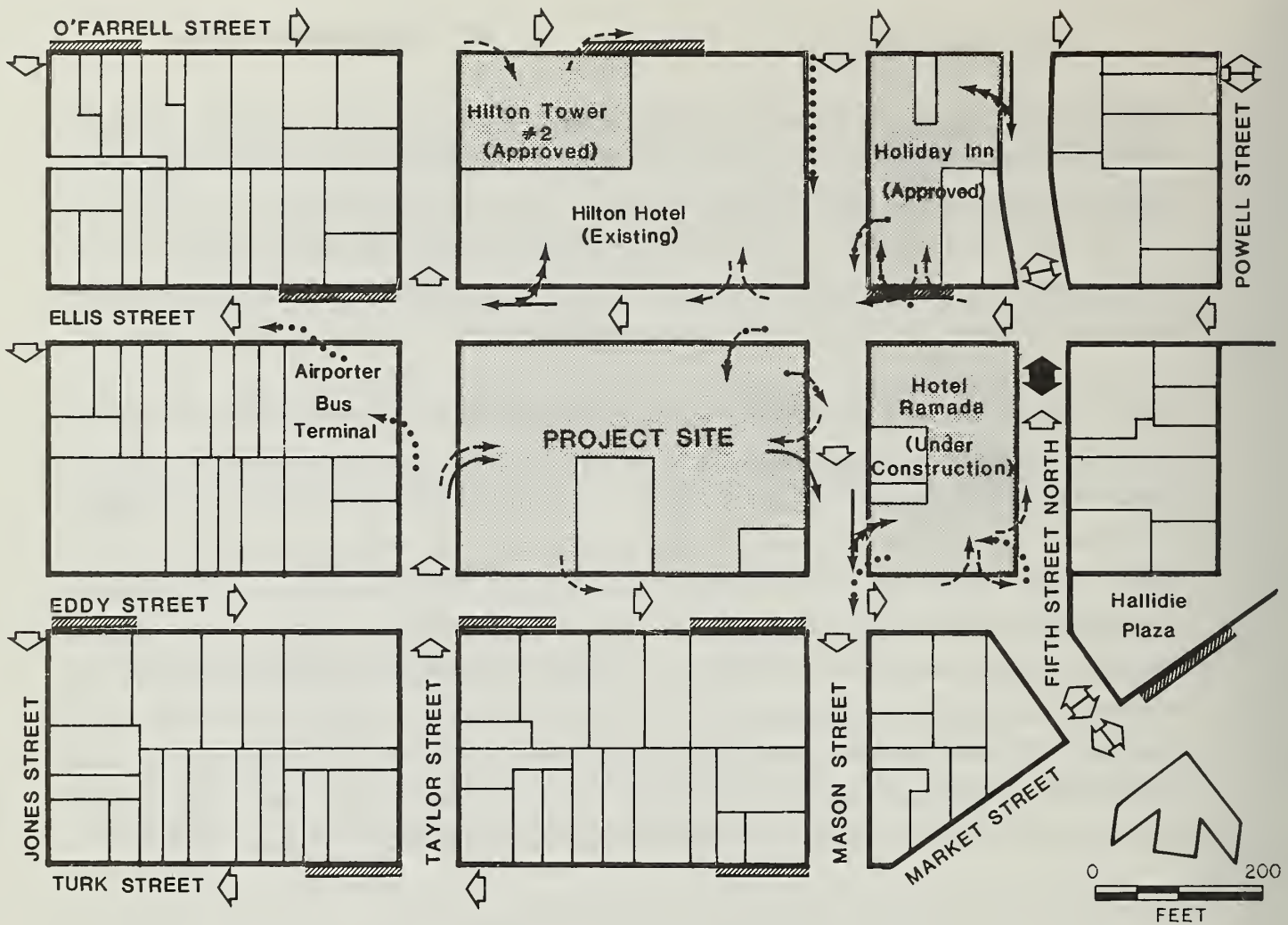
There would be temporary parking demand by construction workers' vehicles, and impacts on local intersections from construction workers' traffic; these impacts would occur in proportion to the number of construction workers who would arrive by automobile. Concurrent construction activities at the project site and nearby sites (the approved Hilton Hotel Tower No. 2 and Holiday Inn, and the Hotel Ramada, currently under construction) would disrupt traffic and pedestrian flows through multiple lane closures, sidewalk closures and street excavation. Because of possibly overlapping construction schedules, however, the aggregate effect of this construction would be less than if all three projects were on the same schedule. By the time demolition would start at the project site, nearby developments should be at construction stages that usually do not generate truck traffic in amounts sufficient to compound the effects of the project.

PROJECTED TRAVEL DEMAND FROM PROJECT OPERATIONS

The estimated net new daily and p.m. peak-hour person and vehicle trip end generation to and from the proposed project is summarized in Tables 12 to 14, on pp. 115 and 116.

Net new p.m. peak-hour vehicle trip ends to and from the project site (from proposed new buildings minus trips from existing uses to be removed) would total about 125. With deduction of an estimated total of 750 person trips currently generated during the p.m. peak hour (4:30 to 5:30) there would be a net increase of about 1,100 person trips to and from the site during the project's p.m. peak travel hour.

In the immediate vicinity of the site are three approved new hotel developments (as noted above), shown on Figure 32, p. 114. Construction of Hotel Ramada, one of the three, just east of the proposed AB 331 project site, has begun. Table 14, p. 116 shows estimated



LEGEND

- Truck Access
- Back-up Maneuver
- Bus Access
- Auto and/or Taxi Access
- Bus and Auto Access
- Bus Stop
- Existing Direction of Traffic Flow
- Proposed Direction of Traffic Flow

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 32
Traffic Circulation in the Project Vicinity

TABLE 12: ESTIMATED P.M. PEAK-HOUR PROJECT TRAVEL*

Mode	Net person trip ends		Net vehicle trip ends		
	Total	Outbound Transit	Total	Inbound	Outbound
Auto and taxi	130		120	65	55
Muni	535	425			
BART	145	110			
AC Transit	55	45			
SamTrans	10	10			
Peninsula Train	30	30			
GGT (bus)	25	20			
GGT (ferry)	5	5			
Airporter bus	55		1	1	0
Charter or tour bus	65		2	1	1
Other**	25				
Total	1,080				

*Detailed estimates of trip generation by existing and proposed uses are on file in the Office of Environmental Review of the Planning Department.
**Principally walking.

SOURCE: Environmental Science Associates, Inc.

TABLE 13: ESTIMATED 24-HOUR PROJECT VEHICULAR TRAVEL

Mode	Net vehicle trip ends
Auto	640
Taxi	380
Charter and tour bus	45
Service vehicle	190
	1,255

SOURCE: Environmental Science Associates, Inc.

24-hour hotel-related person and vehicular trips to each of these hotels; also provided are the net new project trip ends (from proposed new buildings minus trips from existing uses to be removed). The project would rank third of the four developments in trip generation. Trip generation by other new hotels in the City is discussed in Table 14, below.

TABLE 14: PROJECTED NET* NEW 24-HOUR TRAVEL
(Project and three nearby hotels)

	AB 331** Project	Hilton Tower No. 2+	Hotel Ramada++	Holiday Inn+++	Total
Person trip ends	9,170	3,940	9,600	9,600	32,310
Vehicular trip ends					
Auto	640	570	1,450	935	3,595
Taxi	380	345	870	675	2,270
Charter and tour bus	45	40	100	75	260
Service Vehicle	190	30	75	55	350
Total Vehicular Trip Ends	1,255	985	2,495	1,740	6,475

* "Net" means travel from the new buildings minus that now produced by existing uses to be removed.
** Includes all three proposed towers, not just the hotel.

+ Hilton Hotel Tower No. 2 FEIR, EE 79.257, certified January 29, 1981.

++ Hotel Ramada FEIR, EE 80.171, certified January 29, 1981.

+++Holiday Inn - Mason & O'Farrell FEIR, EE 79.283, certified January 29, 1981.

SOURCE: Environmental Science Associates, Inc.

A total of 17.3 million gross square feet of new office space is proposed, approved or under construction in the City (subtracting existing office space that would be removed). Table C-2, in Appendix C, pp. A-53 to A-55, lists the projects included in the cumulative

analysis. This overall growth, and the 0.6 million gross square feet of net new retail space, would generate approximately 51,500 person-trip ends during the weekday p.m. peak hour. The project would generate about 2.2% of the cumulative new trips.

Peak-hour travel by mode for the office component of the project and cumulative development is shown in Table 15, below. The modal assignments have been made on the assumption of existing travel patterns and do not attempt to predict any modal shift. As the bridge and freeway system serving the City is currently near capacity during peak hours, the present population of persons traveling by single-occupant automobiles might be expected to change in the future. Restricted availability of parking would also contribute to a shift away from automobile use. Much of the City-wide peak hour increase might be expected to be accommodated by ride sharing or public transit. Such an increase in public transit is not included in the estimates presented below.

TABLE 15: PROJECTED PEAK-HOUR PERSON-TRIPS BY TRAVEL MODE

Modal Type	Projects Under Construction*	Approved Projects*	Projects Under Formal Review*	AB 331 Project	Total**
Automobile	8,040	4,830	3,330	130	16,330
Muni	6,310	3,820	2,215	535	12,880
BART	4,260	2,570	1,705	145	8,680
AC Transit	1,980	1,180	775	55	3,990
SamTrans	290	170	110	10	580
SPRR (CalTrain)	1,080	650	440	30	2,200
GGT	950	570	385	25	1,930
Ferry	200	120	75	5	400
Other	1,710	1,470	1,235	145	4,560
TOTAL	24,820	15,380	10,270	1,080	51,550

* Individual projects are listed in Table C-2, Appendix C, pp. A-53 to A-55. The AB 331 project has been separated here from the projects under formal review totals.

** Includes AB 331 trips.

SOURCE: Environmental Science Associates, Inc.

PUBLIC TRANSIT

The project would be expected to produce a net increase of about 425 outbound p.m. commute trips on Muni (see Table 12, p. 115). This amount represents a 2% increase in Muni ridership. Muni's downtown service now operates with total outbound ridership of about 91% (0.91 load factor) of overall recommended maximum capacity. The project's Muni trips would contribute about 0.02 to this load factor. On individual vehicles, the recommended maximum ranges from 150% of seated capacity on buses to 220% of seated capacity on Light Rail Vehicles (LRV).

The cumulative effects of a net total of 17.3 million square feet of new office space proposed, approved, or under construction downtown, and of other growth of retail and hotel space, would increase transit ridership by moe than 40%. The average load factor on Muni would increase from 0.91 to 1.15, on the assumption that all slated capacity increases of Muni's current 5-year plan are achieved. Such an increase in load factor would be equivalent to about 12 new patrons on each (non-articulated) diesel or trolley coach and 35 on each LRV. The system as a whole would exceed its design and recommended capacity. New LRV's are on order and the acquisition of new articulated buses is planned; these will achieve part of Muni's planned capacity increases.

If slated capacity increases are not achieved, new cumulative development would cause demand on most of the affected Muni lines to exceed existing capacity. This would also be the case for BART transbay, Southern Pacific and SamTrans. As the cumulative demand increases, the length of time of peak loadings would increase, spreading peak-of-the-peak conditions over time. As some lines operate only during heavy demand periods (for example, express service for one to two hours during peak periods), there may not be additional capacity available to allow spreading over time without the addition of more runs. (Additional runs may not require increases in vehicle fleet size, as the additional runs would be extending the peak period level of service over a longer period of time. Additional runs would cause increases in operating and maintenance costs as well as some additions to farebox revenues.)

Future load factors on the transit agencies would be as shown in Table 16, p. 119. Muni is proposing to increase systemwide capacity by 19%. BART is projecting a peak hour regional capacity of 16,500 seats transbay (eastbound) and 11,000 seats westbay (westbound). Recommended maximum capacity would be 24,750 and 16,500,

TABLE 16: AFTERNOON PEAK HOUR OUTBOUND TRANSIT RIDERSHIP AND LOAD FACTORS (L.F.)/a/

			PROJECTED RIDERSHIP/ EXISTING CAPACITY				PROJECTED RIDERSHIP/ PROPOSED CAPACITY/b/			
	Existing (1982)		Future Riders w/o project/c/		Future Riders plus project		Future Riders w/o project		Future Riders plus project	
Agency	Riders	L.F.	Riders	L.F.	Riders	L.F.	Riders	L.F.	Riders	L.F.
Muni/d/	25,330	0.91	37,670	1.36	38,210	1.37	37,670	1.14	38,210	1.15
BART										
Transbay	13,600	0.90	19,210	1.26	19,310	1.27	19,210	0.77	19,310	0.78
Westbay	6,445	0.61	9,370	0.89	9,420	0.90	9,370	0.56	9,420	0.57
AC Transit	9,560	0.72	13,500	1.00	13,550	1.01	13,500	1.00	13,550	1.01
SamTrans	1,700	0.78	2,280	1.30	2,290	1.31	2,280	0.36	2,290	0.36
SPRR/CalTrans	5,180	0.78	7,350	1.11	7,380	1.12	7,350	1.11	7,380	1.12
Golden Gate										
Motor Coach	4,510	0.66	6,400	0.93	6,430	0.94	6,400	0.74	6,430	0.75
Ferry	800	0.39	1,200	0.57	1,200	0.58	1,200	0.33	1,200	0.33

/a/ Load factor based upon existing (recommended) maximum capacity. A load factor of 1.00 is equivalent to 100% of recommended seated and standing capacity being used. Recommended maximum capacity is less than "crush" loading that occur occasionally.

/b/ Proposed capacity as specified by each agency's Five-Year Plan.

/c/ Future Riders is the sum of existing riders and riders that would be generated by the 17.3 million gross sq. ft. of office development and the 0.6 million sq. ft. of retail development in the downtown.

/d/ 1982 Muni ridership is approximate based on a compilation of Muni ridership by the Department of City Planning. Ridership is the average of the three most recent schedule checks for each route for the months of August 1981 to August 1982, as compiled by the Department of City Planning.

SOURCE: Environmental Science Associates, Inc.

respectively./1/ Average loadings, including ridership from the projected 17.3 million gross square feet of net new cumulative office development and the 0.6 million gross square feet of net new retail development, would not be over capacity with the anticipated five-year plan capacity. However, this does not consider growth in other cities within the BART service area.

AC Transit does not have any increases proposed for its transbay service and would therefore be operating at 99% of its recommended maximum capacity with the cumulative demand./1/ SamTrans is proposing to have a capacity of between 4,800 and 5,000 seats per hour on its San Francisco routes. Recommended maximum capacity would be 6,250 riders. Average future loadings on SamTrans would be under seated capacity when the anticipated capacity becomes available./1/ Southern Pacific / CalTrans does not have any proposals to increase seated capacity on CalTrain, but station improvements, including additional parking, are proposed. Southern Pacific would therefore operate in excess of its recommended maximum capacity with the cumulative demand./1/ Golden Gate Transit is proposing to increase peak period (6-10 a.m.) motor coach capacity by 25% over existing levels. Golden Gate Transit is currently operating only two of the three Larkspur ferries. The proposal for future ferry service improvements involves converting all three Larkspur ferries from gas turbines to diesel engines and using all three ferries on the Larkspur / San Francisco route. The District proposes to increase peak-hour ferry service by 70% over existing levels by using all three ferries and operating additional runs in the peak hour./1/

PEDESTRIANS

The proposed project would add a net total of about 1,000 pedestrian trips to p.m. peak-hour sidewalk traffic around the block. On the sidewalks, these trips would increase p.m. peak-hour pedestrian flow rates by up to 1.0 person per foot of effective sidewalk width per minute. With existing pedestrian traffic and with new trips from the three new hotel projects nearby (see Figure 32, p. 114), p.m. peak-hour pedestrian flow rates on the project block would be in the range of 2.0 to 2.5 persons per foot of effective width per minute, which represents an open pedestrian flow.

Noon-time pedestrian traffic associated with hotels is about 60% greater than p.m. peak-hour traffic; noon-time travel associated with residences is less than p.m. peak-hour travel. Office and retail pedestrian trips at lunchtime are roughly comparable to those

during commute periods. The project's noontime pedestrian traffic would total about the same as during the p.m. peak-hour, but the greatest activity at noon would be at the proposed hotel. With existing pedestrian traffic, and with new trips from the three new hotel projects nearby, noon-hour pedestrian flow rates around the project block would be in the estimated range of 2.6 to 3.1 persons per foot of effective sidewalk width per minute. Under these conditions, pedestrians would enjoy a virtually unrestricted choice of walking speed, but maneuvering would be needed to avoid conflicts. (See Table C-8 on p. A-64 of Appendix C.)

The greatest number of conflicts between pedestrians and vehicles crossing sidewalks in driveways would occur at the garage exit during the p.m. peak-hour. About 10 pedestrians per minute and four vehicles per minute would cross paths there, on Eddy St., during the hour. Conflicts would occur, but delays would be momentary.

VEHICLES AND STREETS

The project would generate a net increase of about 120 p.m. peak-hour vehicle trip ends above the number of trips generated by current uses on the project site. Table 17, p. 122, summarizes the effect of this traffic, and of that produced by the other nearby hotel developments, and by projected development of 17.3 million square feet of net new office space and 0.6 million square feet of new retail space downtown, on vehicular operating conditions at the four intersections at the corners of the project block. The project would cause comparatively small increases in ratios of traffic volumes to the capacities of these intersections. The cumulative effect of new hotel, retail and office development downtown would cause operating conditions to be worsened by one service level at three of the four intersections. Except for the intersection of Taylor and Ellis Sts. (where the Airporter Bus Terminal operates and substantial delays and temporary back-ups, not caused by the project for the most part, would occur during the p.m. peak-hour), the intersections would continue to operate under basically good conditions.

Cumulative downtown development would generate about 12,000 p.m. peak-hour automobile trips to and from the downtown area, on the assumption of existing modal splits, vehicle occupancies and traffic patterns. The proposed project would account for about one percent of the projected automobile trips resulting from all new downtown development.

TABLE 17: OPERATING CONDITIONS AT INTERSECTIONS

	Taylor-Ellis		Taylor-Eddy		Mason-Ellis		Mason-Eddy	
	LOS*	v/c*	LOS	v/c	LOS	v/c	LOS	v/c
Existing	C	0.74	A	0.54	B	0.68	A	0.46
With cumulative development, without the proposed project	D	0.87	B	0.65	C	0.82	A	0.54
With cumulative development, with the proposed project	D	0.87	B	0.66	C	0.83	A	0.56

*LOS stands for Level of Service, defined in Table C-7 of Appendix C, p. A-63. The term v/c is the volume to capacity ratio, which is 1.0 when traffic volumes equal the capacity of the intersection (LOS "E").

SOURCE: Environmental Science Associates, Inc.

The street level floor plan for the project (Figure 5, p. 18 and Figure 6, p. 19) shows access to the project from the street. A porte cochere on the corner of Mason and Ellis Sts. would allow charter or tour bus, taxi, and auto access to the receiving area of the Mason Tower Hotel. Vehicles unloaded in the porte cochere driveway would then be parked in the underground garage by valets. The garage could be entered directly from either Mason or Taylor St. The garage exit would be on Eddy St.

PARKING

The estimated parking demand and supply on the project block is shown in Table 18, p. 123. The estimates of the demand for residential and retail parking in this setting are uncertain, so that the total demand could be for as many as 100 more or fewer spaces than shown. The total parking supply on-site would be adequate in any case.

TABLE 18: PARKING ESTIMATES
(On-site demand and supply of the proposed project.)

Use	Demand	Supply
Hotel*		
Employees (270)	55	
Guests and Visitors (454 occ. rms.)	70	
	125	
Office Towers (219,000 gross sq. ft.)**		
Long term (commute-related)	170	
Short term (other)	25	
	195	
Residential (627 units)***		
To be rehabilitated	60	
To be constructed	95	
	155	
Retail(45,7000 gross sq. ft.)***		
To be rehabilitated	35	
To be constructed	35	
	70	
Garage	—	640
Total	545	640

* Parking demand was estimated from survey data contained in the Hilton Hotel Tower No. 2 FEIR, EE 79.257, certified January 29, 1981.
** Parking demand was estimated based on method used for cumulative development as discussed in Appendix C, pp. A-51 to A-65.
*** These estimates are approximate but are consistent with the estimated trip generation from these uses. The assumed demand responds to the code requirements for RC-4 districts. Actual parking demand from rehabilitated units may be less, so that these estimates would be "worst case."

SOURCE: Environmental Science Associates, Inc.

The project would cause a loss of 420 existing spaces on the block, which now principally serve demand associated with off-site uses.

The cumulative effect of new development (particularly office) on parking demand and supply in the greater downtown area is discussed in Appendix C, pp. A-51 to A-65. There would be an overall deficit (demand exceeding supply) due primarily to the demands of commuters. The cumulative new long-term and short-term parking demand would be for about 18,500 spaces, of which, at most, about 9,600 would be met by existing vacancies and new parking proposed to be provided by new construction in downtown. This estimated new demand may not be fully realized, because of other factors limiting automobile use, such as congestion on freeways and bridges.

TRUCKS AND SERVICE VEHICLES

The project would have about 95 truck or service vehicle stops daily, at a peak rate of about 10-15 vehicles per hour. Truck or service vehicle stops are typically 20 minutes in duration,/2/ so that the project's seven large truck loading stalls and five van stalls would be expected to accommodate all of the project's demand.

The vehicles would enter the fully enclosed loading dock area from Taylor St. and exit to Mason St. Stalls would be angled to the dock to make efficient use of internal maneuvering space. One of the seven loading dock stalls would be 55 feet deep, adequate to accommodate large tractor-trailer rigs. The others would be 35 feet deep, adequate for almost all other trucks. Five additional spaces for service and supply vans would also be provided.

The loading dock stalls would meet, in size and number, the recommended requirements of Resolution 9286, adopted by the City Planning Commission, January 21, 1982.

NOTES - Transportation

/1/ Muni projections from Municipal Railway Rehabilitation and Replacement Plan. BART projections from Marty Birkenthal of BART (telephone conversation, August 18, 1982); SamTrans projections from Gregory Kipp of SamTrans (telephone conversation, August 18, 1982); AC Transit proposals from Ted Reynolds of AC Transit (telephone conversation, August 18, 1982); Golden Gate Transit proposals from Alan Zahradnik of Golden Gate Transit (telephone conversation, August 19, 1982); Southern Pacific proposal from Jim Strong, Design Engineer, Southern Pacific, (written proposal dated August 26, 1982).

/2/ Wilbur Smith and Associates, et al., 1981, "Center City Pedestrian Circulation and Goods Movement Study."

E. AIR QUALITY

Demolition, earthmoving, and construction activities would affect local air quality, especially total suspended particulates (TSP), for about the first six months of construction. Large particulates generated during site preparation and construction would settle quickly and would not be a nuisance or health hazard; fine particulates, less than 30 microns in diameter, would remain suspended for a longer period, and could cause respiratory problems.

The State 24-hour TSP standard of 100 micrograms per cubic meter would probably be violated on and adjacent to the site several times during construction. The frequency and levels of violation cannot be reliably predicted because they are strongly dependent on meteorological conditions, soil composition on-site, and most importantly, the type and schedule of use of construction machinery employed. Construction activity would vary unpredictably during the period when TSP would most likely cause problems.

Upon completion, the project would affect air quality in two ways: emissions would be generated by project-related traffic and by combustion of natural gas for space and water heating. Transportation sources would account for over 95% of project-related emissions.

The project would increase carbon monoxide (CO) concentrations more than those of other criteria pollutants. Cumulative and project effects on sidewalk CO levels on the streets adjacent to the project site were calculated for 1987, by use of peak-hour traffic volumes, according to methods recommended by the Bay Area Air Quality Management District (BAAQMD); the results are shown in Table 19, p. 126. Project-generated traffic would contribute no more than 0.1 parts per million (ppm) to the one-hour concentration, would not cause any measurable increase in the eight-hour CO concentrations in the project vicinity, and would cause no violations of standards. CO concentrations in downtown San Francisco in 1987 are expected to be less than in 1982 because emission reductions resulting from federal- and state-mandated auto emission improvements implemented during this period (e.g., the continuing introduction of "cleaner" autos into the vehicle mix and the concomitant phasing out of older, more-polluting autos) would more than offset increases in traffic volumes./1/

TABLE 19: PROJECTED WORST-CASE CUMULATIVE SIDEWALK CARBON MONOXIDE CONCENTRATIONS AT MAJOR INTERSECTIONS NEAR THE PROJECT IN 1987*--IN PARTS PER MILLION (PPM)

	Existing 1982	With Cumulative Projects 1987**	With Cumulative Projects and MUD AB 331 1987***
1-Hour Concentration**			
Ambient level	10.3	8.4	8.4
Ellis Street (between Mason/Taylor)	16.4	15.9	15.9
Eddy Street (between Mason/Taylor)	12.8	12.3	12.4
Mason Street (between Ellis/Eddy)	13.2	12.8	12.9
Taylor Street (between Ellis/Eddy)	16.5	15.9	15.9
8-Hour Concentration**			
Ambient level	6.5	5.2	5.2
Ellis Street (between Mason/Taylor)	8.6	7.2	7.2
Eddy Street (between Mason/Taylor)	7.4	5.9	5.9
Mason Street (between Ellis/Eddy)	7.5	6.1	6.1
Taylor Street (between Ellis/ Eddy)	8.7	7.2	7.2

*Concentrations at the sidewalk adjacent to the most heavily traveled roadway segment were calculated at each intersection according to the BAAQMD Guidelines for Air Quality Impact Analysis of Projects, 1975, updated with 1981 ARB EMFAC6 emission factors. These methods assume worst-case meteorology and wind/roadway configuration. The ambient or background level in 1982 was calculated as the 3-year average of the second highest annual concentrations. For 1987, the background level was the 1982 value adjusted according to the reduction in regional emissions projected for that year by the 1982 Bay Area Air Quality Plan.

**The 1-hour and 8-hour standards for carbon monoxide are 20 ppm and 9 ppm, respectively.

***The project is scheduled for completion in 1984 but calculations were done for 1987 to take into account completion of all projects currently proposed, planned or under construction.

Estimated daily project-related emissions of carbon monoxide, hydrocarbons, nitrogen oxides, sulfur oxides, and particulates are compared with 1987 projected regional emissions in Table 20, below. None of the project-related emissions would increase pollutant concentrations more than 0.02 percent over existing levels in the San Francisco Bay Area Air Basin.

TABLE 20: ESTIMATED DAILY PROJECT-GENERATED AND REGIONAL EMISSIONS IN 1987 (tons/day)

	Project-Related Vehicular Fuel Combustion*	1982 Regional Emissions***	1987 Projected Regional Emissions***
Carbon Monoxide	0.516	2880	2,340
Hydrocarbons	0.046	615	515
Nitrogen Oxides	0.054	598	543
Sulfur Oxides	0.006	192	182
Particulates	0.068**	498	536

* BAAQMD, 1981, EMFAC-6C Vehicular Emission Factors. Emissions due to natural gas combustion in the project would be negligible (compared to the tabulated data) for all pollutants.

** Includes dust generation by vehicular traffic on paved roadways.

*** Association of Bay Area Governments (ABAG), BAAQMD, MTC, 1982, 1982 Bay Area Air Quality Plan

SOURCE: Environmental Science Associates, Inc.

In summary, implementation of the project would add to local and regional accumulations of hydrocarbons and nitrogen oxides (two precursors of ozone), CO, particulates, and sulfur oxides. Project-related emissions would impede the attainment of standards for hydrocarbons, CO, and particulates; however, they would probably not have a measurable impact on citywide or regional concentrations, or on the frequency of violations of the standards. The project would add to the cumulative increase in ozone downwind, but

would not have a statistically significant effect on ozone concentration. Neither the project nor other development in the vicinity would conflict directly with the control strategies of the Bay Area Air Quality Plan.

NOTE - Air Quality

/1/ 1982 Bay Area Air Quality Plan, BAAQMD, ABAG and MTC, July 1982.

F. CONSTRUCTION NOISE

As is typical of downtown San Francisco, the noise environment of the project site is dominated by vehicular traffic noise, including trucks, automobiles and emergency vehicles. The Environmental Protection Element of the San Francisco Master Plan indicates a day-night average noise level (L_{dn})/1/ of 70 dBA/2/ on Taylor, Ellis and Eddy Sts. and 65 dBA on Mason St. in 1974.

Project construction would occur in three stages: demolition, site excavation, and construction of the new buildings. Throughout the 30-month construction period, increased noise levels could be expected in the surrounding area. Table 21, p. 129 shows typical noise levels outdoors 50 feet from the noise source during different phases of construction. Levels 100 feet from the source would be lower by about 6 dBA than those shown in the table. The people inside nearby buildings (within a 100-foot radius of the site) would experience noise impacts, at reduced levels; there would be reductions in the noise levels shown in Table 21 because the walls and windows would attenuate the sound. With windows open, interior noise levels would be 10-15dBA less than the levels shown in Table 21. Closed windows would reduce noise levels by 20-25 dBA. This information on the effects of distance and physical barriers on noise intensity has been used in the following estimates of noise levels outside and inside nearby buildings.

During construction, each piece of powered equipment, other than impact tools, would have to comply with the San Francisco Noise Ordinance (Section 2907b) requirement of a sound level of not more than 80 dBA at 100 feet. The Noise Ordinance (Section 2908) also prohibits construction work at night from 8:00 p.m. to 7:00 a.m. if noise from such work exceeds the ambient noise level by 5 dBA at the property line, unless a special permit is authorized by the San Francisco Department of Public Works.

TABLE 21: TYPICAL COMMERCIAL/INDUSTRIAL CONSTRUCTION NOISE LEVELS AT 50 FEET FROM THE SOURCE

Construction Phase	Duration of Phase**	Average Noise Level
Ground clearing	2 months	84 dBA
Excavation	3 months	89
Foundations*	7 months	78
Erection	8 months	85
Finishing	10 months	89

* Includes four weeks of pile driving.
** Phases of construction would overlap.

SOURCE: Bolt, Beranek, and Newman, December 31, 1971, Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency, p. 20.

The project may require pile driving during the 16 weeks of foundation preparation. Conventional unmuffled and unshielded pile drivers at impact emit noise of 100 to 110 dBA at a distance of 100 feet The quietest pile driver measured by the City generates noise levels of 92 dBA at 100 feet. Actual noise emissions are also dependent upon soil characteristics and the type of pile being driven. On the assumption of a worst-case noise level of 110 dBA at 100 feet and no obstacles or structures attenuating the noise, pile driving would be audible to people on the streets at distances up to one mile from the project site. With quieter pile drivers and the effects of intervening buildings taken into account, the noise impacts would be limited to about a 500-1,000-foot radius. Vibrations from the hammer's impact would be felt in adjacent and nearby buildings. These vibrations have been found to be more disturbing to some people than the high noise levels.

The operation of pile drivers is regulated in section (2907c) of the San Francisco Noise Ordinance. The Department of Public Works can order special abatement procedures, such as equipping the machines with intake and exhaust mufflers, predrilling of pile holes, and restricting the hours of operation, in order to reduce the levels and duration of exposure.

Noise impacts would be most severe in the older buildings that would be retained and renovated on the project site (and in the William Penn and Mason hotel, also on the project block). These buildings rely on open-window ventilation. Interior noise levels during pile driving could be over 110 dBA with windows open and over 100 dBA with windows closed. The project site is surrounded by residential and tourist hotels, most of which rely on open-window ventilation. All are within 70 feet of the site. Noise levels in these buildings during pile driving could be over 100 dBA with windows open and over 90 dBA with windows closed.

During other stages of construction, noise would not be as intense but it would be continuous instead of intermittent. Noise levels would decrease 25-30 dBA from the values given above for pile driving. Even so, noise levels in the buildings closest to the site could be over 75 dBA for up to 24 months during site demolition and clearance.

The effects of exposure to high noise levels have been widely studied./3/ Sounds exceeding 35-40 dBA can interfere with sleep. Normal speech communication is disrupted by sounds above 60 dBA. When noise levels go over 70 dBA, people begin to find the noise annoying and disruptive to their activities. Prolonged exposure to sounds above 90 dBA can cause hearing damage. It has also been found that repeated impulse and intermittent sounds of high level appear more likely to be disruptive than continuous or steady sounds of comparable levels.

NOTES - Noise

/1/ Ldn, the day-night average noise level, is a noise measurement based on human reaction to cumulative noise exposure over a 24-hour period, taking into account the greater annoyance of nighttime noises. Noise between 10 p.m. and 7 a.m. is weighted 10 dBA higher than daytime noise.

/2/ dBA is the measurement of sound in units of decibels (dB). The "A" denotes the A-weighted scale, which simulates the reponse of the human ear to various frequencies of sound.

/3/ Central Institute for the Deaf, 1971, Effects of Noise on People, for the U.S. Environmental Protection Agency, Office of Noise Abatement and Control.

G. ENERGY

CONSTRUCTION ENERGY REQUIREMENTS

Removal of existing structures and site development would require an unknown amount of energy. Fabrication and transportation of building materials, worker transportation, and building construction would require about 1.6 trillion Btu of gasoline, diesel fuel, natural gas, and electricity./1,2/ If distributed over the estimated 50-year life of the project, this would be the equivalent of about 32 billion Btu per year, or about 20% of annual building energy requirements (see discussion following).

OPERATIONAL ENERGY REQUIREMENTS/3,4/

Proposed Energy Design

The project would be designed to comply with the prescriptive building energy efficiency standards of Title 24 of the California Administrative Code./5/ Electricity would be used for lighting, air conditioning, ventilation, cooking, elevator operation, office-equipment operation, and plumbing system pumping. Natural gas would be used for space and water heating.

Heating, ventilating, and air conditioning (HVAC) would be the prime use of electricity and natural gas in the project. Air conditioning would be provided by units with economizer cycles that use outside air for cooling. A natural-gas-fired boiler would supply hot water to the system for space heating.

The location and orientation of the project towers, governed largely by considerations other than energy conservation, affect the amount of heating and cooling required. The two larger project towers (Mason and Ellis, at the north and east portions of the project block) would receive extensive solar exposure. This would result in passive solar heating of these towers that would reduce mechanical heating needs during the winter but increase required mechanical cooling during the summer. Depending on the amount and color of paving in open space areas, and roof characteristics of the Taylor Tower and low-rise buildings on the southern and western portions of the site, a large portion of the solar input onto these areas could be converted to heat.

The lighting system would be the second largest consumer of energy in the project. Lighting required for the project would add substantially to the cooling loads during the summer, because electricity used for lights would be converted to heat. This lighting waste heat would also, however, provide part of the heat in winter, reducing the buildings' requirements for natural gas.

Lighting systems installed in perimeter areas would be controlled to permit reduced artificial illumination when natural sunlight (daylighting) is available. The long, narrow configurations of the proposed structures would permit extensive use of daylighting, depending upon the amount and arrangement of window areas. However, daylighting could also result in excessive solar heating of interior spaces during the summer, unless window areas are carefully sized and located.

Partly as an energy-conservation measure, provision would be made for collecting and recycling the large amounts of paper, aluminum, glass, cardboard, and other reusable materials that would be generated by project occupants.

PROPOSED ENERGY BUDGET

The Mason Tower would require for operation about 2.7 million kWh (about 27.6 billion Btu) of electricity and about 29.5 million cubic feet (about 32.5 billion Btu) of natural gas annually. This would be about 7.7 kWh of electricity per square foot per year and about 93,000 Btu of natural gas per square foot per year. The building's total annual energy budget would thus be about 172,000 Btu per square foot.

The Ellis Tower would require for operation about 2.8 million kWh (about 29 billion Btu) of electricity and about 16.4 million cubic feet (about 18 billion Btu) of natural gas annually. This would be about 6.5 kWh of electricity per square foot per year and about 42,500 Btu of natural gas per square foot per year. The building's total annual energy budget would thus be about 109,000 Btu per square foot.

The Taylor Tower would require for operation about 2.3 million kWh (about 23.5 billion Btu) of electricity and about 6.1 million cubic feet (about 6.6 billion Btu) of natural gas annually. This would be about 10.8 kWh of electricity per square foot per year and about 31,000 Btu of natural gas per square foot per year. The building's total annual energy budget would thus be about 142,000 Btu per square foot per year.

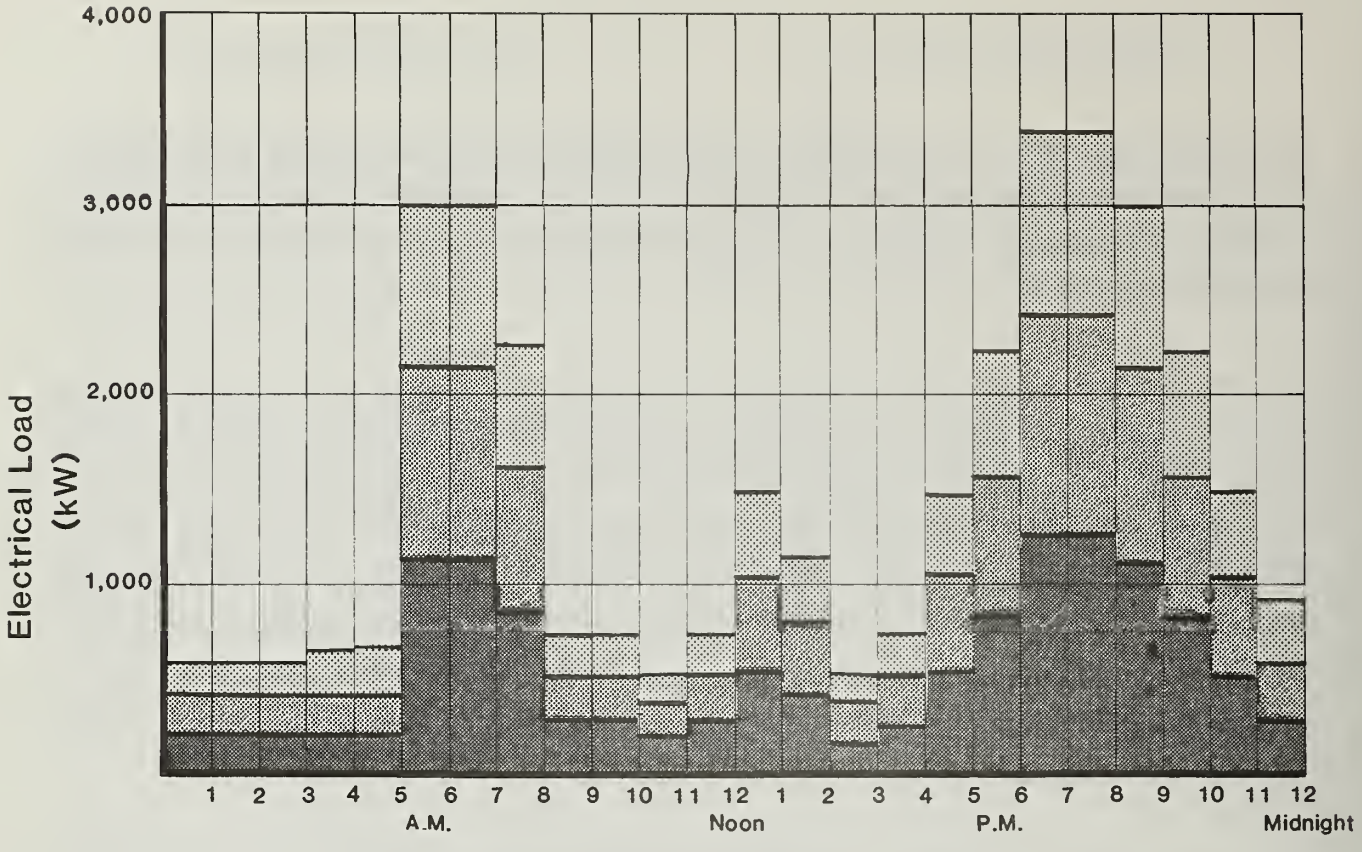
For comparison with these estimated energy budgets, annual electricity consumption in San Francisco's commercial sector ranges from about 18 to about 29 kWh per square foot, and annual natural gas consumption ranges from about 110,000 to about 770,000 Btu per square foot./6/

In addition to the three new buildings to be constructed as part of the project, several existing buildings would be renovated and retained. These retained structures' energy consumption is estimated at about 26 billion Btu per year; existing buildings to be demolished as part of the project account for about 22 billion Btu of the total 48 billion Btu estimated to be consumed annually by buildings now occupying the site (see Setting). This energy consumption in the retained existing buildings could be reduced, however, as a result of replacing doors and windows, replacing older, less-efficient appliances with new energy-efficient ones, upgrading electrical distribution systems, and other planned renovation activities.

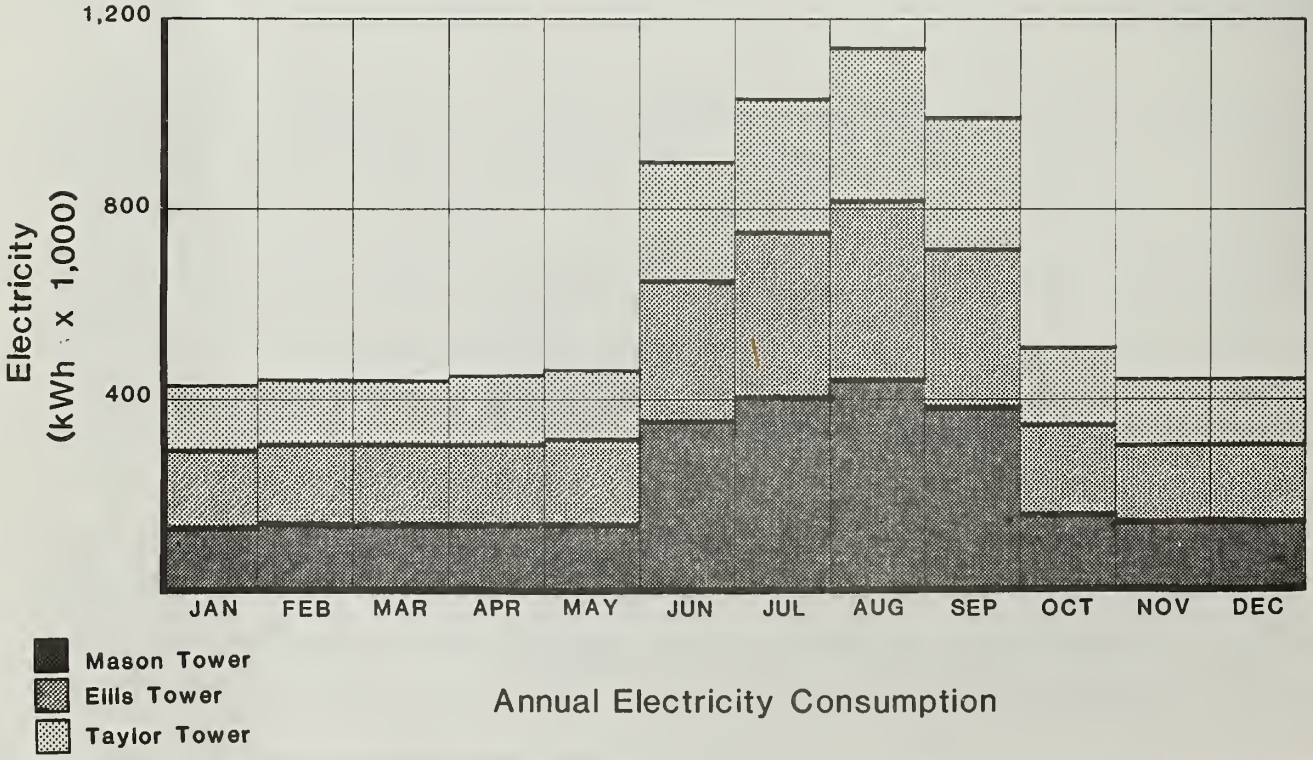
Total electrical consumption from the project, exclusive of retained existing structures, would be about 7.8 million kWh per year, rising from about 400,000 kWh per month during the winter to about 1,150,000 kWh per month during the summer./7/ Net electrical demand (i.e., total minus that of structures to be demolished) would be about 6.3 million kWh per year.

Electricity consumption would peak between 6 and 8 a.m. and again between about 6 and 10 p.m. Peak electrical loads of about 3,400 kW, about 2.4 times the average electrical load during the day, would occur on summer evenings. This evening peak period would overlap the later part of PG&E's systemwide peak period, which occurs between noon and 6 p.m. on summer afternoons; the peak load would be about 0.02% of PG&E's systemwide peak electrical demand. Estimated peak day demand and average annual electricity consumption curves for the three new structures in the project are given in Figure 33, p. 134.

The project's natural gas consumption, exclusive of existing structures, would be about 57 billion Btu per year, rising from about 3.5 billion Btu per month during the summer to about 6.2 billion Btu per month during the winter./8/ Net new natural gas consumption (total minus that of structures to be demolished) would be about 50 billion Btu per year.



Daily Electrical Load Distribution (August)



Annual Electricity Consumption

SOURCE
Bentley Engineering Company and
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 33
Projected Electricity Consumption

Peak demand for natural gas of about 17 million Btu per hour, from hot water boilers, would occur on winter mornings. Because of their low thermal mass and large window areas, the buildings would retain little heat overnight and would be reheated to comfort levels each morning. This winter natural gas peak, about 1.8 times the average daily natural gas load, would not coincide with the PG&E system-wide peak period for natural gas, which occurs in early evening hours in winter. Estimated peak day demand and average annual natural gas consumption curves for the project are given in Figure 34, p. 136.

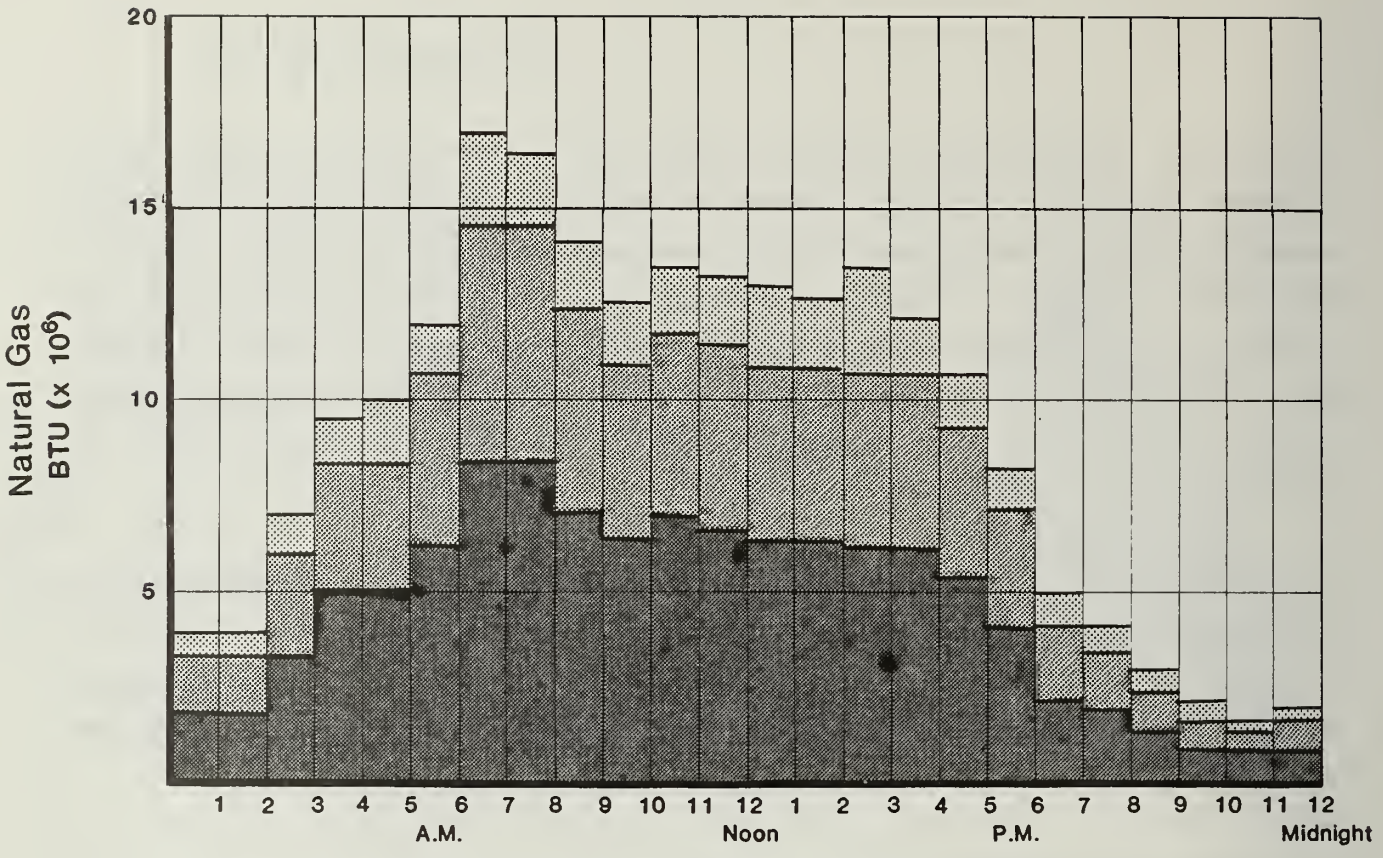
The total annual energy budget of the project, including both new construction and existing structures to be renovated, would be about 199 billion Btu (see Table 22, p. 137). This would be an increase of about 300% in energy use on the site. The project's energy budget would be about 5% of the energy increase projected for office development under construction, approved, and under review by the City in the Downtown.

TRANSPORTATION ENERGY

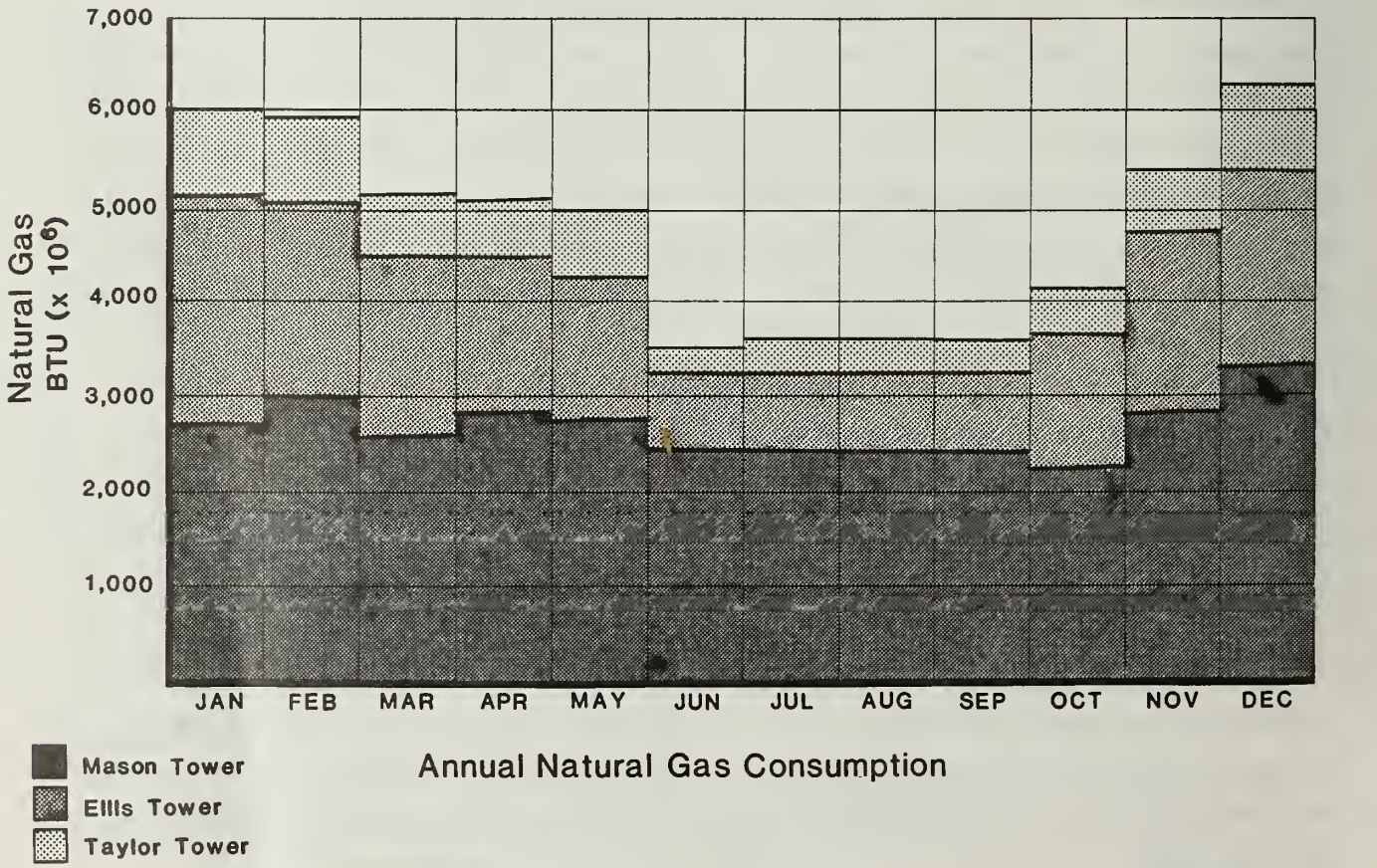
Project-related transportation would cause additional, off-site energy consumption. For the project trip generation described in the Transportation Section, project-related trips would require about 183,000 gallons of gasoline and diesel fuel and about 700,000 kWh of electricity annually. The total annual transportation demand, converted with at-source factors to a common unit, would be about 33 billion Btu. This projected use is based upon the mix of road vehicles expected in California in 1985. Generally, statewide vehicle fuel use is expected to decrease until 1985 as the vehicle fleet becomes more efficient and fuel more expensive.

LIFETIME ENERGY COSTS

The lifetime energy cost of operating the three new towers included in the project would be about 6,900 billion Btu, based on a building life of 50 years. Energy cost of maintenance and operation of utilities serving the project would be an additional 180 billion Btu./9/ The amount of energy embodied in project construction and materials is estimated at about 1,600 billion Btu. Transportation energy costs, assuming no change in annual amounts over the 50-year period, would be about 1,700 billion Btu. The energy that would be saved by demolishing existing structures on the site (i.e., the energy they



Daily Natural Gas Load Distribution (December)



Annual Natural Gas Consumption

SOURCE
Bentley Engineering Company and
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT

FIGURE 34
Projected Natural Gas Consumption

TABLE 22: ESTIMATED ANNUAL ENERGY CONSUMPTION (billion Btu, at source)

Item	Natural Gas/b/	Electricity/c/	Total
Existing Development	25.2	22.9	48.1
Project/a/			
Mason Tower	32.5	27.6	60.1
Ellis Tower	18.0	29.0	47.0
Taylor Tower	6.7	23.5	30.2
Renovated Existing Units	17.4	8.3	25.7
Operation and Maintenance/d/			3.6
Construction (annual for a 50-year project)		32.0	
Project Total	74.6	88.4	198.6
Cumulative Development	3,100.	572.	3,670.

/a/ Does not include project-related travel.
/b/ Conversion factor of 1,100 Btu per cubic foot of natural gas includes energy lost in production, transmission, and distribution.
/c/ Conversion factor of 10,239 Btu per kilowatt-hour of electricity includes energy lost in production, transmission, and distribution.
/d/ Energy cost of operating and maintaining utilities serving the site (based on Contra Costa County Planning Department, 1976).

SOURCE: Environmental Science Associates, Inc.

would use if they remained on the site for another 50 years) would be about 1,100 billion Btu. The total energy commitment to the project would, therefore, be about 9,200 billion Btu. This would be equivalent to about 1.5 million barrels of oil.

ENERGY CONSERVATION REGULATIONS, PLANS, AND POLICIES

The project sponsor would demonstrate the project's compliance with Title 24 building energy conservation standards prior to obtaining a building permit, thus ensuring that the project, as designed, achieves the minimum acceptable level of energy efficiency. Undetected design and construction flaws and the limitations of current energy models, however, could result in excessive energy consumption unless actual operational energy is audited after the project is occupied, and appropriate corrections made.

The project would be consistent with City energy policies to establish land use patterns that reduce the number and distance of transit and vehicle trips, and policies to encourage use of energy-conserving appliances. The project would not respond to City policies to weatherize and/or insulate existing housing, to design and orient buildings so as to minimize energy consumption, to connect to district heating, and to increase the utilization of renewable and alternative energy systems. The project would also not respond to City policies to discourage use of master metering (non-residential portions of the project).

CUMULATIVE ENERGY CONSUMPTION

Energy requirements for approved and recently proposed projects in downtown San Francisco would increase annual electricity consumption by more than 300 million kWh, which would be about 13% of PG&E's projected systemwide increase over the next 10 years./10/ These projects would also increase annual natural gas consumption by more than 520 million cubic feet. Total increase in building operation energy demand would be about 3.6 trillion Btu annually, equivalent to about 600,000 barrels of oil per year.

Cumulative demand for electricity by approved and recently proposed projects in downtown San Francisco would increase electrical demand in the PG&E service area by about 0.4%. PG&E's reserve margin, the amount of excess capacity over demand that serves as a safety allowance, is estimated at about 14% for 1982. This reserve margin is projected to rise to about 25% in 1983, as the Diablo Canyon nuclear power plant comes on line, then decline slowly during the late 1980's to about 18% in 1990. The additional electrical demand created by the project and other projects approved or under consideration by the City could be accommodated by existing and planned PG&E facilities.

NOTES - Energy

/1/ The British thermal unit (Btu) is a unit of heat energy equivalent to the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea-level; all Btu values given in this section are at-source values. The term "at source" means that adjustments have been made in the calculation of the Btu equivalent to account for the energy required for generation transmission and transport, as specified in Energy Conservation and Design Manual for New Nonresidential Buildings, California Energy Resources Conservation and Development Commission, 1977.

/2/ Hannon, B., et al., 1978, "Energy and Labor in the Construction Sector," Science 202: 837-847.

/3/ PG&E indicates that its electricity and natural gas distribution systems in the site vicinity are adequate to serve the project site.

/4/ The discussion of operational energy consumption is based on information provided by Bentley Engineers, San Francisco, California; this information is on file at the Office of Environmental Review, San Francisco Department of City Planning, 450 McAllister Street, 5th Floor, and can be reviewed during normal business hours.

/5/ Prescriptive building energy efficiency standards specify the degree of insulation, weatherstripping, glazing, lighting, and other features required for new buildings.

/6/ Citizens' Energy Policy Advisory Committee, 1982, Recommendations for Reducing Community Energy Costs.

/7/ Electrical demand and consumption estimates were based on data obtained from PG&E and other sources for similar buildings and occupancies in downtown San Francisco. The resulting per-square-foot figures for each occupancy were adjusted downward to account for planned energy conservation features. For the list of projects used to compare energy consumption, see Table F-1 in Appendix F.

/8/ Estimated natural gas use is based on actual operating data obtained from existing, similar buildings. The resulting figures were modified for glass exposure, orientation, and shading. The estimates assume that the buildings would be heated 26 days per month and that heating system efficiency would be about 70%.

/9/ Contra Costa County Planning Department, 1976, Energy Conservation: Guidelines for Evaluating New Development in Contra Costa County, California.

/10/ Pacific Gas and Electric Company, 1982, Forecast of the Demand for Electricity Within the Pacific Gas and Electric Company Service Area, 1982 - 2002; Electricity Technical Supplement.

H. GEOLOGY, SEISMICITY AND HYDROLOGY

GEOLOGY

Approximately 60% of the block (about 78,500 square feet) would be excavated for the proposed new development, underground parking and foundations. The William Penn Hotel and the Mason Hotel, occupying about 12,600 and 4,500 square feet on the block, respectively, are not included in the project. The remainder of the block (about 35,000 square feet), including four on-site buildings to be rehabilitated, would not be excavated except as needed for refurbishing. (The Hotel Zee is off-site and not included in these calculations.) An estimated 45,000 to 65,000 cubic yards of earth would be excavated./1/ This material would be disposed of at an offsite location./2/ The

excavation would be made to a maximum depth of about 30 feet below Ellis St. (and of about 30 feet below Eddy St.), to accommodate the underground parking structure and building foundations.

Excavation to the depths noted above probably would entail the removal of all the fill. The floor of the excavation would be the dense sand noted in the Setting, pp. 67 and 68. Generally, such material can support spread footing or mat foundations adequately with only minor settlement. Specific foundation types have not been identified for the proposed new buildings. The project's geological consultants noted that although the building foundation loads would be substantial, the structure probably could be supported by a shallow foundation system such as a reinforced concrete mat for the high-rise structures, and either a mat or spread footings for the low-rise structures./3/ Because the dense sands have low compressibility, the total settlements of the new buildings would be expected to be small./3/

During excavation and construction of the underground levels, there would be a significant hazard of collapse of the excavation pit walls, because the sands lack supportive strength at the pit face. Unless supported artificially, the pit wall could collapse and potentially injure construction workers, and damage adjacent streets, sidewalks, underground pipes, and utility lines. In addition, when excavation occurs, the foundations of the adjacent old buildings could be damaged by collapse of the soils on which they rest. The grading contractor is expected to support the excavation pit with shoring. With the exception of excavation hazard, the site has no known unusual problems as compared to the surrounding area. Other excavations in the vicinity, e.g. for the Ramada Hotel, have been done with only minor problems.

The refurbishing of the existing old buildings on-site probably would not require substantial excavation. The foundation types of those buildings are not known; however, these buildings most probably have spread footing foundation systems, typical for buildings of that age in this area of San Francisco. In order to bring these old buildings up to current Building Code, some reinforcement of the foundations might be required. The nature and extent of such reinforcement cannot be predicted at this time. The old buildings have undergone most of the expected settlement because of their age and the site soils' characteristics. Reinforcement and refurbishment might add new loads which could induce some new settlement, but this probably would create no significant hazards for the refurbished buildings or for the new construction.

SEISMICITY

The seismic hazards to buildings at the site would be reduced by the project because the existing structurally substandard buildings would be either removed or refurbished to meet present seismic standards of the San Francisco Building Code. The proposed new structures would be designed to meet those standards. The structural design of the buildings has not yet been determined. To meet current Code requirements the structural system which would prevent the buildings from collapsing or toppling due to horizontal movements created by wind or earthquake must resist collapse in a severe earthquake (designed for one of about 8.0 Richter magnitude), although the frame could undergo severe damage. In a moderate earthquake (5-6 Richter magnitude), the structural damage would be minimized and a basically elastic behavior in all elements of the frame must be maintained.

The greatest potential hazard in the three towers would result from swaying motions in a moderate or large earthquake of long duration. The maximum allowable sway for the tallest building would be about three feet. Swaying motions could cause bookcases, hung ceiling panels, and other unattached objects in the buildings to fall. The swaying motion could cause windows to break and glass to fall to the street and interior courtyard. The swaying motions could also cause the pre-cast concrete panels on the exterior of the buildings to loosen and possibly fall.

It is not possible to determine the number of window panes which could potentially fall during an earthquake. The Building Code specifies window construction to maximize window stability. The window-wall system would be designed to allow lateral movement due to earthquakes, wind and thermal stresses.

Earthquakes could also damage water mains, pipes, and underground utility lines, leaving the towers without outside water, power, or telephone communication. Elevators could be made inoperable due to loss of power or damage to the elevator systems. The Building Code requires emergency water storage, pumps, and a power generator for the building. These measures would reduce the potential hazard created by fires that might occur at the same time the water supply is cut off by earthquake damage to water mains.

Rapid settlement of the sands and fill is another earthquake hazard which could damage the proposed buildings and old structures to be retained. If the structures' foundations are

below the loose fill, foundation settlement due to densification of the soils would be of minor concern. However, fill-supported structures and facilities, such as the old buildings, sidewalks or underground utilities may undergo some settlement.

No specific plans have been drawn for the proposed refurbishing of the old buildings to be retained. Following a detailed study of the conditions of the structural elements of those buildings, (their foundations, framing, walls, and exteriors), plans would be made to bring the old buildings into compliance with the Code through structural reinforcement. Refurbishment of those buildings would reduce the existing earthquake hazard to their residents.

HYDROLOGY

The project would have no impact on runoff from the site because the site is currently covered with impermeable surfaces and would be similarly covered after the project is constructed. All runoff water would be directed into the City's storm drain/sewer system.

If the excavation for the new development is deep enough to penetrate the groundwater table at the site, dewatering may be required. The project's geotechnical consultant noted that dewatering may not be needed except locally (e.g. in the elevator shaft pits). The groundwater pumped from the job, and runoff in the excavated pit, would be discharged into the storm drains in the site vicinity. This water is expected to contain silt and sand, which could clog storm drains.

Dewatering, if required, might produce some local subsidence in the area (although not to the extent that occurs in compressible materials like Bay mud). Settlement of the dense sand would be expected to be minor; settlement of the fill may be greater. Settlement of these materials might damage brick and masonry buildings adjacent to the excavation and in the vicinity. Underground utility lines could be bent or broken and streets could develop cracks and sags. Because of the potentially high costs of repairs associated with such damages, the Department of Public Works generally requires that a bond be posted before issuance of permission for excavation. The City would require a survey to monitor any movement or settlement of surrounding buildings and streets during dewatering.

The temporary lowering of groundwater levels during dewatering would not be expected to have a permanent impact upon groundwater conditions in the vicinity. Groundwater would be expected to return to normal following the cessation of dewatering. The saturated conditions of the sands vary, and some seepage problems in the underground parking levels would be created. Consequently, waterproofing of the underground structure would be required.

NOTES - Geology, Seismicity and Hydrology

/1/ The total amount of excavation cannot be identified precisely because the extent of existing basements, accurate topographic grades, and projected limits of the proposed excavation are not known.

/2/ The disposal site has not been identified; currently it is common for excavation spoils in San Francisco to be disposed of somewhere along the Peninsula.

/3/ Harding-Lawson Associates, 1982, letter of February 18, 1982 to Environmental Science Associates, Inc.

I. GROWTH INDUCEMENT

The project would expand hotel, office, and retail space in the eastern Tenderloin area located west of Union Square, and would rehabilitate three residential hotels and two low- and moderate-income apartment buildings. Although the new construction would intensify land use, the rehabilitation would stabilize these affordable rental structures and prevent near-future speculation on the site.

The project would add about 450 rooms to the supply of tourist hotel rooms in the City, an increase of about two percent. If the project and the 7,000 other hotel and motel rooms planned or under construction in the City are built, the total supply would increase by about 27%. Despite increasing hotel room demand, the average occupancy rate for all hotels in the City may be expected to decline for several years.

On the assumption of an 80% occupancy rate and 1.62 persons per room, the project would accommodate an average of approximately 215,000 visitor-nights per year. Visitors at the project hotel would spend about $15.4 million per year in San Francisco (exclusive of expenditures for hotel rooms, and meals and beverages within the hotel)./1/ Many purchases by hotel occupants would be from local merchants. Existing businesses would

benefit, and the increased demand may contribute to the establishment of additional tourist-serving businesses.

Part of this demand would be satisfied by the 44,700 square feet of new retail space proposed as part of the project. The additional 20,300 square feet of rehabilitated retail space would not be tourist-oriented, but would include neighborhood-serving stores. These neighborhood-serving stores would replace those uses currently on the project site.

The 218,600 square feet of office space represents a small proportion of the office space market (about 0.4% of the total existing office space through 1981). The project also represents a small fraction (about 1%) of office space that has been approved, or is under construction or formal review. The project's office development of itself would not be expected to affect the rental prices of downtown office space.

The project would not require any infrastructural improvements that would open or intensify land development opportunities that do not already exist. Development would occur in an already urbanized downtown setting and would not require new extension of public service or utility systems. The project would create about 1,340 permanent full-time jobs, a net increase of 1,280 over the existing employment at the site. While many of these jobs, especially in the hotel, would be filled by City residents, expanded employment opportunities would attract some new employees to San Francisco. Employees not residing in San Francisco would contribute to the demand for housing elsewhere in the region.

Employees, whose aggregate disposable income would increase, would demand more commercial goods and services. Employees new to the area would increase the local demand for social, medical and municipal services. These demands would be an indirect growth effect attributable to the project.

Similar indirect effects would also result from the 371 condominium units that would be supplied by the project. These effects would not result from increased employment, but from migration to the site of moderate- to high-income households that would occupy the condominium units. These project residents would probably demand a different mix of goods and services than do current Tenderloin residents. Businesses designed to serve these demands may open. Some of these demands could be met by the new retail space proposed as part of the project.

The impacts, on the eastern Tenderloin neighborhood surrounding the project, of three hotels planned in the area (exclusive of the project) are discussed in Hotel Ramada San Francisco Final EIR, pp. 104-104d, which has been incorporated by reference into this EIR. The cumulative impacts of the three hotel developments (Ramada, Holiday Inn and Hilton Tower No. 2) described in that EIR would be similar to the combined effects of the three hotels and the project.

In summary, the Hotel Ramada EIR states that increased on-site investments could cause increased development pressure on values of land surrounding development sites. These market pressures could cause residential displacement, particularly the conversion of residential hotels to low-cost tourist hotels and/or rent increases beyond the means of existing tenants. These two potential impacts have been mitigated to a certain extent by the Residential Hotel Conversion Ordinance and the Rent Stabilization Ordinance. The enforceability of the Residential Hotel Conversion Ordinance is uncertain, however, as the result of a recent court challenge. The conversion of apartment units to uses other than tourist units is permissible under City law; the extent of this potential displacement has not been determined.

Neighborhood-serving business may also be displaced as land values and rents increase. Development pressures to intensify the existing land uses may also occur, but this impact would be lessened by the Tenderloin rezoning proposal as described in Land Use, pp. 70 and 71. Unquantifiable social costs, such as psychological hardship to remaining residents caused by displacements of friends from the area, and increased costs of goods and services for neighborhood residents, may also result. Such social costs may result from the project as well as from cumulative development in the eastern Tenderloin to which this project would contribute.

Cumulative development in the area could raise property values, and therefore rents, in the Tenderloin. The rehabilitation of 254 units of low-income housing proposed as part of the project would partially offset this effect by maintaining low-cost residences in the neighborhood.

NOTES - Growth Inducement

/1/ Based on city-wide distribution of 1981 combined tourism expenditures of $128.81 per visitor day prepared by Dirk Wassenaar for the San Francisco Convention and Visitors Bureau, May 5, 1982.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE ADVERSE EFFECTS OF THE PROJECT

Mitigation measures currently proposed as part of the project and those not included as part of the project are listed below. Mitigation measures listed in the Initial Study (see Appendix A, pp. A-25 to A-27) that are still applicable are included in this section.

ARCHITECTURAL RESOURCES, VISUAL ASPECTS, AND URBAN DESIGN

MEASURES PROPOSED AS PART OF THE PROJECT

- The project would provide open space uses (i.e., a landscaped courtyard with public seating during daylight hours), which are encouraged in Guiding Downtown Development II. The project would provide about 18,000 square feet of public/common open space; this amount exceeds the RC-4 district requirement by 6,700 square feet.

EMPLOYMENT, HOUSING, RELOCATION AND FISCAL ASPECTS

MEASURES PROPOSED AS PART OF THE PROJECT

- According to the formula contained in the Office Housing Production Program (OHPP) Interim Guidelines, January 11, 1982, the project would generate a gross demand for 194 housing units in San Francisco. The sponsor would provide a total of 370 market-rate condominium units. The housing provided on-site would exceed the OHPP housing requirement.

- The project sponsor would negotiate with existing retail/commercial tenants having leases that would be prematurely terminated by the project, to either provide financial compensation for relocation costs, or give the existing neighborhood-oriented retail/commercial tenants priority to lease rehabilitated commercial space. New neighborhood-oriented stores would have leasing preferences for the rehabilitated retail/commercial spaces. The leasing rates for the rehabilitated retail/commercial space would be lower than market rate.

- The project sponsor would seek a new major food/grocery store to be included in the project; this store would serve the convenience shopping needs of project and neighborhood residents.

- Rehabilitated residential space would be managed and operated in accordance with the HUD Section 8 low-income housing program. The sponsor would retain a professional management company to operate the rehabilitated residential units under these HUD guidelines.

- The project sponsor would make available adequate temporary residences for existing tenants in the Zee, Empress, and Crystal residential hotels and the 250 Taylor and El Don apartments during rehabilitation work. Temporary residences could be made available by phasing of rehabilitation and provision of comparable units in one of the existing or rehabilitated buildings (about 50% of the units are currently unoccupied). If the tenant decides not to relocate to a temporary residence, the sponsor would provide monetary compensation for moving or relocation expenses required under the applicable City ordinances. After completion of rehabilitation, existing residents qualifying under HUD Section 8 guidelines and the Affirmative Fair Marketing Plan would be given first priority to return to their former residences.

- Tenants of the Diamond Hotel and the six apartments in the San Francisco Health Club (both to be demolished) would be compensated by the project sponsor for their moving expenses according to applicable City ordinances. Additionally, if these tenants qualify under the HUD Section 8 guidelines and the Affirmative Fair Marketing Plan, they would be given priority to rent the rehabilitated on-site residential units.

- The project sponsor would require the general contractor to give first hiring preference to all qualified union applicants who are Tenderloin residents. The Apprenticeship Opportunities Foundation, a nationwide affirmative action organization that assists minority entrance into apprenticeship programs and other blue-collar occupations, would work with community groups to recruit qualified area and minority applicants. Minority hiring goals would range from 33 to 50%, depending on the construction trade.

- The sponsor would require the hotel operator to give hiring preference to Tenderloin residents over other equally qualified applicants, and to seek the assistance of a non-profit organization in pre-screening applicants and verifying their place of residence.

TRANSPORTATION, CIRCULATION, AND PARKING

MEASURES PROPOSED AS PART OF THE PROJECT

- In recognition of the need for expanded transportation services to meet the peak demand generated by cumulative commercial development in the downtown area, the project sponsor would contribute funds for maintaining and augmenting transportation service, in an amount proportionate to the demand created by the project as provided by Board of Supervisors' Ordinance No. 224-81. Should Ordinance No. 224-81 be declared invalid by the Courts, the project sponsor would participate in any subsequent equivalent mitigation measure(s) adopted by the Planning Commission or the City in lieu thereof, which measures will apply to projects similarly situated.

- A transportation broker would be designated to develop and implement a transportation management program. The transportation broker would promote transit through the on-site sale of BART tickets and Muni and Golden Gate Transit passes. He/she would encourage carpooling/vanpooling by providing a central clearing house for carpool information in cooperation with Rides for Bay Area Commuters. The transportation broker would also encourage tenants of the project to permit flex-time arrangements for their employees, to reduce the peak demand on roads, bridges, and transit systems.

- The project sponsor would make provision for mounting eyebolts on the buildings to suspend Muni trolley wires.

- The project sponsor would provide five spaces for service vans in addition to the required seven truck loading spaces.

- The project sponsor would provide secure and safe bicycle parking, parking spaces for the handicapped, and access facilities for the handicapped, satisfying the demand generated by project users.

- Within a year of full occupancy of the project, the project sponsor would conduct a survey, using methods approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for carpools and vanpools. The project sponsor would make this survey available to the Department. Alternatively, at the request of the Department, the sponsor would provide a fair and equitable in-lieu contribution toward an overall transportation survey for the downtown area to be conducted by the City.

- During the construction period, project truck movement would be limited to the hours between 9 a.m. and 4 p.m. to minimize peak-hour traffic conflicts.

- The project sponsor and the construction contractor would meet with the Traffic Engineering Division of the Department of Public Works, with Muni and with the Office of Environmental Review to determine feasible traffic mitigation measures to reduce traffic congestion during construction of this project and other projects nearby, to minimize traffic impacts due to truck movements, lane closure or street excavation.

AIR QUALITY

MEASURES PROPOSED AS PART OF THE PROJECT

- During excavation, unpaved demolition and construction areas would be wetted down with water to reduce dust emissions; two wettings per day with complete coverage would reduce particulate emissions (dust) by about 50%.

- The sponsor would require the general contractor to maintain and operate construction equipment in such a way as to minimize exhaust emissions. During construction, trucks in loading and unloading queues would turn off their engines to reduce vehicular emissions.

CONSTRUCTION NOISE

MEASURES PROPOSED AS PART OF THE PROJECT

- Prior to construction, the project sponsor would meet with the management of the existing Hilton Hotel and Tower, the Hotel Ramada (currently under construction) and the approved Holiday Inn (if the latter is occupied) to negotiate arrangements for identified hotel "daytime sleepers" to be assigned hotel rooms located farthest from the construction site and noise sources. The project sponsor and contractor would also meet with the Department of Public Works and the Bureau of Engineering to determine (and implement) additional measures that would reduce construction noise.

- The project sponsor would require the project contractor to use electric-powered rather than diesel-powered construction equipment, where feasible.

- If pile-driving is required, holes for piles would be pre-drilled to reduce the level and duration of noise impacts. The project sponsor and/or contractor would also meet with the Bureau of Engineering to determine necessary and feasible measures to reduce pile-driving noise during the period (about four weeks) over which it may occur.

UTILITIES AND PUBLIC SERVICES

MEASURES PROPOSED AS PART OF THE PROJECT

- The project would incorporate internal security measures, such as a 24-hour staffed guard station in the lobby area of the hotel and office portions of the towers. Closed-circuit television cameras and internal security personnel would be provided. Entries would be well lit, with alarm systems installed; additionally, separate security elevators and locked entrances with call-telephones would be provided for the residential portions of the Taylor and Ellis Towers.

- Computerized office and residential entrances accessible only by pre-programmed magnetic keys would be provided.

- The project would incorporate low-flow faucet and toilet fixtures to reduce water consumption and wastewater.

- The building would be equipped with a trash compactor to reduce the volume of solid waste requiring storage and transport. Separate storage facilities for recyclable waste material would be provided for office, hotel and residential uses.

ENERGY

PROPOSED AS PART OF THE PROJECT

- Wherever possible, office suites would be equipped with individual light switches, time-clock operation, and fluorescent or high-intensity-discharge (HID) lamps to conserve electrical energy. Light-sensitive photocells would be installed in office areas to reduce perimeter lighting automatically when natural light is available (daylighting). A centralized management computer system would monitor off-hour (evening and weekend) heating, ventilating, and air-conditioning (HVAC). Tenants would be charged for off-hour heating and air-conditioning. Residential and office condominium units would have individually metered gas (if applicable) and electric services. This would encourage energy economy by individual tenants.

- The HVAC system would be equipped with an economizer cycle to use outside air for cooling, as feasible. Ventilation rates within buildings would be the minimum allowed by industry codes and standards.

- Hot water outlet temperatures in washrooms would be limited to 100° Fahrenheit.

- The electrical power distribution system within the project would use low-impedance fixtures to reduce transmission losses and increase system efficiency.

- The exterior walls of the buildings would be finished with light-colored materials with high emissivity characteristics to reduce cooling loads.

MEASURES NOT INCLUDED IN THE PROJECT

- Project engineers could meet with PG&E load management specialists during final project design stages to determine the extent to which peak demand control measures could reduce the project's peak electrical demand. Within 18 months of full occupancy, each building could have an energy audit by PG&E or by a qualified energy consultant, and the building owner could implement all recommended cost-effective energy conservation measures. Results of the audit could be made available to the City.

- Lighting system heat could be: a) recycled for space heating during the heating season via induction boxes and collected by ceiling plenums; and b) exhausted from the building during the cooling season, to reduce building cooling loads by up to 75 Btu per square foot per day.

- The project sponsor could upgrade the energy efficiency of rehabilitated space to that of new construction, rather than comply only with the appliance efficiency standards (which apply to all existing and new construction).

- The HVAC intake/exhaust vents could be located to make use of the predominant air flows around the building; this could lower back-pressure on the system, and thus could reduce fan loads. The HVAC system could be computer-controlled for maximum efficiency. Additionally, the HVAC system's intake and exhaust ports could be equipped with a heat recovery wheel or other heat transfer device (heat exchanger) to recover part of the heat being rejected from the building in winter and to precool incoming air in summer. Heat transfer devices now available could recover between 65 and 85% of the energy lost in exhausting conditioned air from the building. This ventilation system could also be designed to cascade ventilation air from high-priority areas to low-priority areas before being exhausted, thereby decreasing the volume of ventilation air required. For example, air could be cascaded from offices to corridors to mechanical spaces before being exhausted. Mechanical rooms could be located on exterior walls, and wherever possible on the top floor, to decrease unnecessary heating of occupied spaces and enhance heat dissipation from the buildings. The development could be designed with corridors and other low-occupancy areas located on south walls, to serve as thermal buffer zones for occupied spaces.

- An active solar water-heating system to reduce natural gas consumption could be installed.

GEOLOGY, SEISMICITY AND HYDROLOGY

MEASURES PROPOSED AS PART OF THE PROJECT

- The project sponsor would have a thorough soils investigation of the site prepared by a registered geotechnical consultant to provide the necessary geotechnical information for the project design criteria. The report would provide detailed information on the soil types and distribution, seismic response spectrum for the site, secondary seismic hazards, and groundwater conditions. The report would also include the results of laboratory testing and engineering analysis of the soils to evaluate the anticipated settlement behavior of the proposed structures. The project sponsor would follow the recommendations made in the report.

- The project sponsor would require the project contractor and sub-contractors to obtain a Faithful Performance and Payment Bond, if proper financial capability is not evident, and to be responsible for any damage to existing buildings which might result from excavation. This bond would protect the project sponsor and owners of adjacent properties if any damage to these properties were to result from construction activities.

- The project sponsor would have a detailed report prepared on the existing structural systems of the old buildings to be preserved and refurbished. The report would contain information about the nature and condition of the foundations, framing, exterior and interior walls, etc. This report would provide the necessary information for developing a refurbishing and reinforcement plan for each building, and supply data to develop an underpinning system during excavation and construction for the new development.

- During excavation, where needed, the contractor would install groundwater observation wells and monitoring instruments to monitor the levels of the water table and potential settlement and subsidence. Recharging wells or other means, e.g. continuous flow, would be used to maintain the groundwater at or near current seasonal levels.

- The contractor would confine construction equipment maintenance and refueling activities to locations where petroleum spills could be contained, and would construct catchment basins on-site to trap silt and debris for later transportation to landfill or disposal sites. Contaminants would be flushed to catchment basins, and the quality of water discharged to City sewers would be monitored.

- Nonstructural elements of the building, such as hanging light fixtures, bookcases, ceiling and wall partitions, and mechanical equipment would be attached in a manner to reduce the likelihood of their falling during an earthquake.

- Windows would be installed to minimize the possibility of breakage during an earthquake and to maximize the possibility that glass would fall inward, rather than outward, should breakage occur.

CULTURAL

MEASURES PROPOSED AS PART OF THE PROJECT

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation, and retrieval, if appropriate.

EMERGENCY RESPONSE PLAN

MEASURES PROPOSED AS PART OF THE PROJECT

- An evacuation and emergency response plan would be developed by the project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to ensure coordination between the City's emergency planning activities and the project's planning and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management before issuance of final building permits by the Department of Public Works.

- To expedite implementation of the City's emergency response plan, the project sponsor would provide information to building occupants concerning what to do in the event of a disaster.

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

The project would be part of a trend of denser development in Downtown San Francisco. Cumulative increases in the amount of office space would continue regional growth in service-sector and office headquarters activities and employment. The project would contribute to cumulative traffic increases in Downtown and cumulative increases in passenger loadings on BART, Muni, and other transit agencies.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

ALTERNATIVE A: NO PROJECT

DESCRIPTION OF ALTERNATIVE

This alternative would entail no change to the site. Conditions associated with this alternative would generally remain as discussed in the Environmental Setting Section of this report (pp. 37-69). All buildings on the site would be preserved under this alternative, including two buildings rated "B", seven buildings rated "C" and one building rated "D" in the Heritage survey. The businesses and residents now on-site would not be relocated.

Under this alternative, the Crystal Hotel, Empress Hotel, and Hotel Zee would not be rehabilitated, nor would the El Don and 250 Taylor Street apartment buildings. There would be no additions to the City's housing stock of 370 market-rate units, and no preservation of low-income residential hotel and apartment units. Because existing buildings on the site were built prior to currently applicable seismic and safety standards, they could continue to pose greater life safety hazards to employees and residents than would the proposed project, especially in the event of an earthquake.

COMPARISON OF ENVIRONMENTAL EFFECTS

In 1986, traffic, transit, and air quality conditions described in Section IV., Environmental Impacts (pp. 112-128) would be the same as projected base conditions with cumulative development, without the project. There would be no change in the demand from the site for community services. The site would continue to generate approximately $53,900 annually in property taxes to the General Fund. This alternative would preserve options for future development of the site, at an unknown density.

STATUS OF ALTERNATIVE

The project sponsor has rejected this alternative because it would be an economic underuse of the site. Alternative A was also rejected by the sponsor because it would not

provide additional residential units, hotel rooms and office space to respond to the perceived existing and future demand in San Francisco.

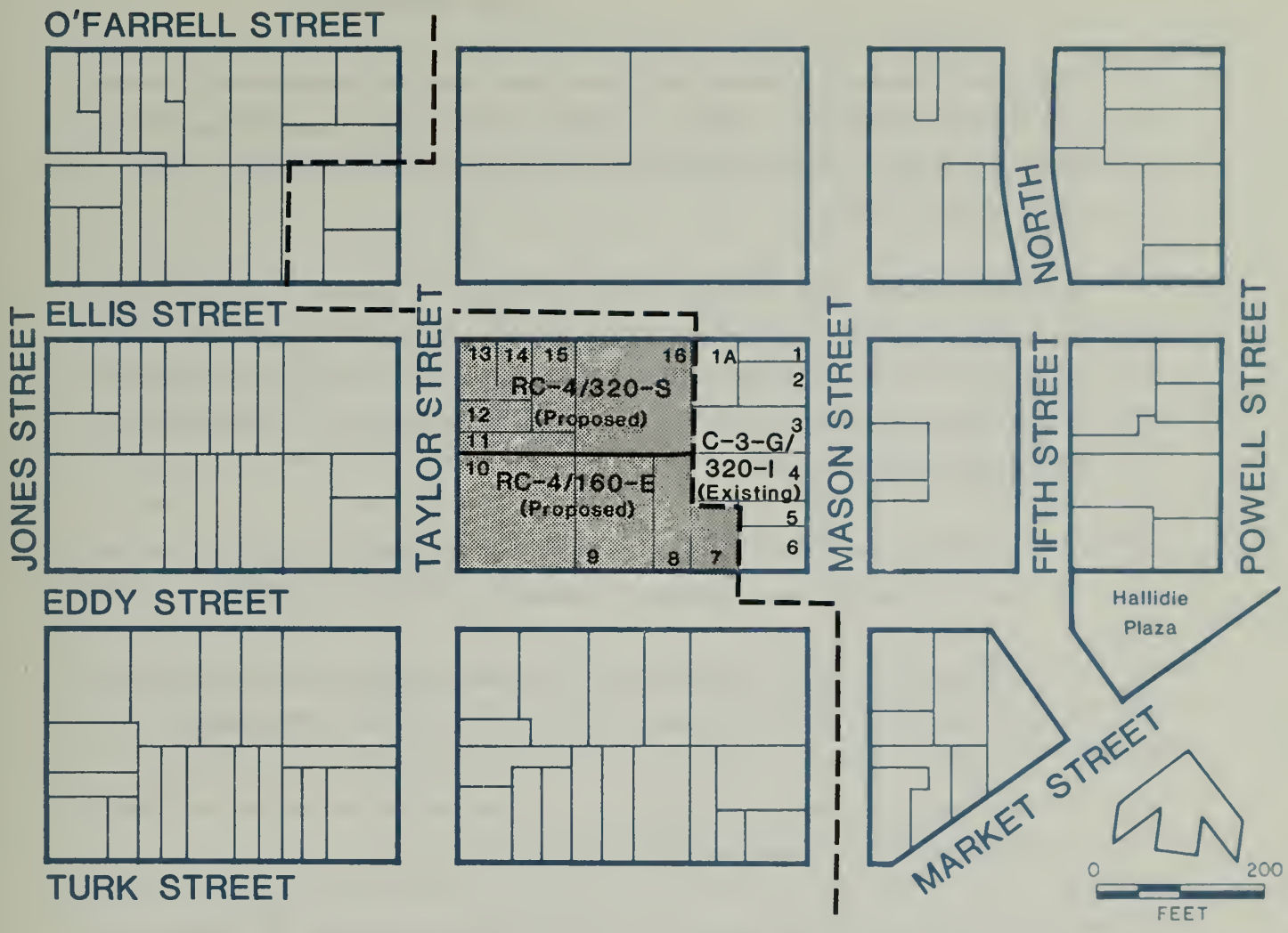
ALTERNATIVE B: NORTH OF MARKET - MIXED USE DISTRICT (NOM - MUD)

DESCRIPTION OF NOM - MUD PROPOSAL

The Department of City Planning is presently considering permanent zoning controls for the Tenderloin that would replace the current interim controls established by the North of Market Planning Coalition's (NOMPC) proposed zoning reclassification. See Section III, p. 42, and Alternative C, p. 164 for a description of the NOMPC proposal. These proposed changes to the text and zoning map of the City Planning Code would create a North of Market - Mixed Use District (NOM - MUD). This district would require a zoning reclassification of an approximately 30-acre area (out of a total of about 66 acres) from existing C-3-G and C-2 districts (Downtown General and Community Business) to an RC-4 district (Residential/ Commercial High Density) for the primary purpose of preserving and promoting housing resources in the North of Market area./1/ (The North of Market area is generally bounded by McAllister St., Fifth St. North (recently renamed Cyril Magnin St.), Mason St., Post St., and Van Ness Ave.) In an effort to consider an alternative to comply with the NOM - MUD proposal, the project sponsor had prepared three NOM - MUD alternatives which were based on earlier versons of the NOM - MUD proposals. The present NOM - MUD alternative reflects the NOM - MUD proposal as provided in the Department of City Planning's report, "North of Market Rezoning Study," dated March 1983. The proposed project was designed to comply with the draft version of NOM - MUD dated August 1982.

Only the western two-thirds of the project block would be included in the NOM - MUD; the eastern third would remain in the existing C-3-G district (see Figure 35, p. 159). To meet the requirements of the NOM - MUD, development on the western two-thirds of the project site would be governed by the following major provisions of NOM - MUD:

1. New tourist hotels would not be permitted (the present RC-4 district permits hotels as conditional uses).



Boundary of NOM-MUD

Portion of Project Block within NOM-MUD

RC-4/320-S Planning Code Use/Height and Bulk Designation

SOURCE
"North of Market Rezoning Study",
March 1983

Block 331
MIXED USE DEVELOPMENT

FIGURE 35: North of Market Mixed Use District (NOM-MUD) Block 331 Reclassification

2. Residential development above the ground floor would be permitted as a matter of right up to 80 feet in height. (Section 253 of the present Planning Code requires Conditional Use authorization for any building exceeding 40 feet in height in any R district.)

3. Any development which exceeds an 80-foot height or involves commercial use above the ground floor would require Conditional Use authorization by the City Planning Commission. Authorization of such permits would require, in addition to the criteria set forth in Section 303 of the Planning Code, consideration of the following new criteria:

   - the extent to which new housing units are included in the project and the extent to which these units are affordable by low-income groups.

   - the extent to which rehabilitation of existing housing units to be reserved for permanent low- or moderate-income use is included in the project.

4. New development would be required to minimize the amount of shadow falling on adjacent sidewalks during certain hours of the day.

5. Existing residential uses would be required to be retained or replaced by comparable units in the NOM - MUD as a condition of any new development, residential or commercial.

6. Maximum dwelling unit density would be determined by the permissible building envelope and minimum habitability standards specified in the Housing Code. (Section 209.2(l) of the Planning Code allows a maximum of one unit per 200 square feet of site area in an RC-4 district.)

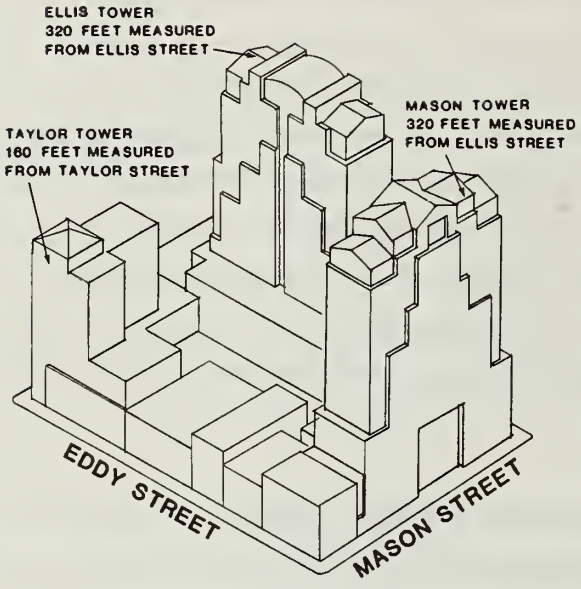
7. The maximum number of off-street parking spaces permitted would be one for each dwelling unit; there would be no minimum requirement. No off-street parking for commercial uses would be required.

The NOM - MUD proposal would also revise the height and bulk standards on the project block (see Figure 35, p. 159) with Conditional Use approval required for development exceeding 80 feet in height. The 320-S and 160-E Height and Bulk districts would apply to the western two-thirds of the project block that would be within the NOM - MUD. These districts would limit maximum building heights to 320 feet for the Ellis Tower and 160 feet for the Taylor Tower. The "S" bulk district is proposed in Guiding Downtown Development (GDD), July 1982. It would assign bulk limits based on a building's proposed height and would limit upper floor areas so that the highest floor levels of proposed buildings would conform to progressively more restrictive bulk limits than would lower floor levels (see GDD, pp. A-8 and A-11). The "E" bulk district would, above 65 feet in height, limit the maximum building length to 110 feet and the maximum horizontal diagonal dimension to 140 feet.

The eastern third of the project site would remain in the 320-I Height and Bulk district, in which the maximum permitted height is 320 feet; above 150 feet, the maximum permitted building length is 170 feet and the maximum permitted horizontal diagonal dimension is 200 feet.

Under the NOM - MUD proposal, a maximum of about 683,900 square feet of gross floor area would be allowed. The portion of the site in the C-3-G Use district could be developed to a maximum FAR of 10:1, allowing development of 288,750 square feet of gross floor area; total gross floor area in the C-3-G portion of the site, including corner bonuses, would be limited to 320,000 square feet.

Through the Conditional Use process, commercial floor area on the portion of the site that would be in the proposed NOM-MUD would permit development of about 323,570 gross square feet of floor area, exclusive of floor area premiums; total commercial development, including floor area bonuses, would be limited to 363,900 square feet.



SOURCE Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 36
Alternative B:
North of Market -
Mixed Use District

Alternative B (see Figure 36, on the left) includes 683,600 square feet of gross floor area and 370,900 square feet of residential floor area. Section 124(b) of the Planning Code excludes residential floor area from the calculation of gross floor area in an R district. A comparison of the major features of Alternative B to those of the proposed mixed-use development is shown in Table 23, p. 163.

COMPARISON OF ENVIRONMENTAL EFFECTS

Alternative B would contain 967,000 square feet, or 21,100 square feet less new construction than the proposed project (see Table 23, p. 163). Both the project and Alternative B would retain and rehabilitate about 87,500 square feet of residential hotel apartment and ground-floor commercial space on-site. However, unlike the project, Alternative B would not include any off-site rehabilitation. The distribution of new construction would vary, as Alternative B would provide about 19% more new hotel space (9% more rooms); 12% less residential space and units; and 15% less office space than the project.

The City Planning Commission would be required to take the following action to approve Alternative B:

a. Conditional Use authorization for height above 80 feet in the NOM - MUD district.

b. Conditional Use authorization for office space above the ground floor and commercial floor area to a maximum FAR of 4.8:1 in the NOM - MUD.

c. Conditional Use authorization to allow parking in excess of about 625 stalls.

For comparison, the project would require several additional actions by the City Planning Commission to be approved under NOM - MUD zoning regulations. These include: a height variance of 30 feet for the Taylor Tower and Conditional Use authorizations for exceptions to the bulk limits for all three towers.

TABLE 23: ALTERNATIVE B: NORTH OF MARKET - MIXED-USE DISTRICT

	NOM-MUD Alternative B/1/					NOM-MUD Permitted	Proposed Project
	Rehab	Mason	Ellis	Taylor	Total		
Retail*	13,300	16,700	17,800	10,200	58,000		58,000
Office*	0	0	120,000	66,600	186,600		218,600
Hotel*/3/	42,700	396,300	0	0	439,000		375,700
(Units)	130	500	0	0	630		585
Total Commercial*	56,000	413,000	137,800	76,800	683,600	683,900	652,300
Residential*/4/	31,500	0	255,000	84,400	370,900		423,300
(Units)	60	0	240	80	380	/5/	435
Total Area*	87,500	413,000	392,800	161,200	1,054,500		1,075,600

	Rehab	Mason	Ellis	Taylor
Base Height Permitted**	N.A.	320	80	80
Height Permitted with CU**	N.A.	/2/	320	160
Alternative B Height**	N.A.	320	320	160
Project Height**	N.A.	260	320	190

* In square feet.
** In feet.
N.A. Not Applicable
/1/ Does not include Hotel Zee; includes 87,500 sq.ft. of rehabilitation and 967,000 sq.ft. of new construction.
/2/ The Mason Tower, located in a C-3-G district, is not affected by NOM - MUD height restrictions.
/3/ Includes residential hotel rehabilitation.
/4/ Sec. 124(b) of the City Planning Code excludes residential floor area from the calculations of gross floor area in a R (Residential) district. All residential units in both Alternative B and the project are located on the NOM - MUD portion of the site (an RC-4 district).
/5/ NOM - MUD does not limit housing density.

SOURCE: Whisler-Patri Architects.

Since the Alternative B Mason Tower would be taller than in the proposed project, it would cast longer shadows than the project, but would not be expected to cast additional shadows, on the Airporter Bus Terminal and the proposed Center City Park in particular, both of which are located on Assessor's Block 332, immediately west of the project block. Neither Alternative B nor the proposed project would be able to avoid shadows on the north sidewalk of Ellis St. during the noon hour. Uses along that side of the street are limited to the Hilton Hotel's loading docks and garage entrance. The Taylor Tower in Alternative B would be 30 feet lower than the proposed project; therefore, it would cast shorter shadows than the project. The Ellis Tower would remain the same height as in the project.

Air quality, construction noise, geological, net housing demand and transportation effects of this alternative would be similar to the effects of the proposed project.

STATUS OF ALTERNATIVE

The sponsor would consider developing Alternative B if a conditional use authorization is granted for the 4.8:1 FAR. However, the sponsor prefers the proposed project's heights, design, and mixture of uses (i.e. more housing) to those in Alternative B.

NOTE - Alternative B

/1/ The North of Market - Mixed Use District (NOM - MUD) described in Alternative B is based on North of Market Rezoning Study, dated March 1983, San Francisco Department of City Planning.

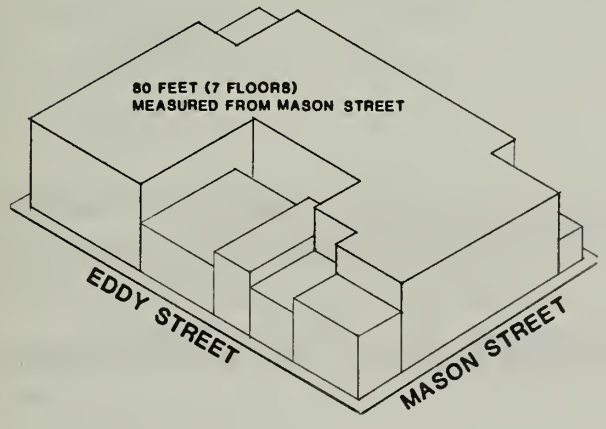
ALTERNATIVE C: NORTH OF MARKET PLANNING COALITION (NOMPC) REZONING PROPOSAL

DESCRIPTION OF NOMPC PROPOSAL

In May 1981, the North of Market Planning Coalition (NOMPC) submitted a rezoning proposal for the Tenderloin area (described in Section III.A, p. 42). The intent of the NOMPC reclassification is to preserve the North of Market area as a low-income community. The project site is on the eastern edge of NOMPC's proposed Core Tenderloin Special Use District. The NOMPC Special Use District overlay would

introduce a Planning Code text change that would limit commercial uses above the ground floor, tourist-serving businesses, open-lot parking, adult entertainment uses, and bars.

Alternative C (see Figure 37, below) would construct 76,200 square feet of retail and office space. A total of about 430 residential units would be constructed. No buildings would be rehabilitated as part of this Alternative (see Table 24, p. 166). The site of Alternative C would exclude Lot 1, containing the Diamond Hotel. This structure would be retained in its existing condition and would not be rehabilitated as part of Alternative C. A tourist hotel would not be constructed in this alternative.



SOURCE
Beland Gianelli
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 37
Alternative C: North of Market Planning Coalition Rezoning Proposal

COMPARISON OF ENVIRONMENTAL EFFECTS

The maximum height of new construction in Alternative C would be 80 feet, as compared to project tower heights ranging from 190 to 320 feet. Visually, Alternative C would relate more to the existing low-scale buildings south and west of the site. A project of this height would cast minimal net new shadow on adjacent sidewalks and the Airporter Bus Terminal; there would be no net new shadow effects on the site of the proposed Center City Park. There would be no substantial alteration of existing wind conditions if Alternative C were to be constructed.

Alternative C, in complying with the NOMPC rezoning proposal, would generate a net demand for up to about 70 units of housing, depending on how much of the 76,200 square feet of ground-floor retail/commercial space would be used for office. This housing demand would be more than satisfied by the residential component in Alternative C. The 70 units represent about 120 fewer units than the project would demand. Up to 345 net new permanent jobs would be created, as compared to net new project employment of 1,280 persons.

TABLE 24: ALTERNATIVE C: NORTH OF MARKET PLANNING COALITION (NOMPC) REZONING PROPOSAL COMPARED TO THE PROPOSED PROJECT

New Construction	Alternative C/1/	NOMPC Maximum	Proposed Project Total
Ground Floor Retail/Commercial (sq. ft.)	76,200 /2/	--	44,700
Above-Ground-Floor Office (sq. ft.)	0	--	218,600
Hotel (sq. ft.)	0	--	332,900
Rooms	0	--	455
Total Commercial	76,200	365,800	596,200
Residential (sq. ft.)/3/	457,200	--	391,800
Units	428/4/	381	370
Total (sq. ft.)	533,400		988,000
Height (feet)	80		190 - 320

/1/ Site development would not include Lot 1, which is currently occupied by the Diamond Hotel. The total site area to be developed would be about 94,085 square feet.
/2/ An undetermined amount of office space is included in the 76,200 square feet of ground-floor retail/commercial space.
/3/ Residential floor area is not counted toward maximum floor area in an R district.
/4/Planned Unit Development approval could be sought to increase the number of dwelling units allowed to 761 units.

SOURCE: Whisler-Patri Architects.

Up to about 110 vehicle trips would be generated during the p.m. peak hour, 90% fewer than the project's p.m. peak hour trip generation. Up to about 320 Muni trips would be generated by this alternative, about 30% fewer than would be generated by the project. Air quality impacts resulting from Alternative C would be less than those of the project in proportion to this decrease in vehicle trip ends. Alternative C would have up to 218,600 fewer square feet of office space than the proposed project (depending upon the amount of office space contained in the 76,200 gross square feet of ground-floor retail/commercial space). This decrease in office space would correspondingly reduce the contribution to the impacts of cumulative office development in the Downtown area.

STATUS OF ALTERNATIVE

Alternative C has been rejected by the sponsor because it would be an economic underuse of the site. This alternative would not rehabilitate any existing buildings and would not provide new hotel and office space to meet the perceived demand for such uses in the City.

ALTERNATIVE D: PROJECT CONFORMING TO GUIDING DOWNTOWN DEVELOPMENT

DESCRIPTION OF GDD ALTERNATIVE

Guiding Downtown Development (GDD), published in July 1982, contains controls proposed by the Department of City Planning. GDD proposes that Lot 10 of the project site be reclassified to an RC-4 district. The remaining part of the project block would be in the C-3-G district.

GDD proposes a height and bulk district of 360-S for the portion of the site on which the Ellis Tower would be constructed. The Taylor Tower site would be in a 130-E height and bulk district. The Mason Tower site would be in a 220-S height and bulk district. GDD proposes Planning Code text changes which would allow Conditional Use authorization for construction of a maximum 295-foot-high Mason Tower and a 255-foot-high Taylor Tower (see GDD, p. A-3).

GDD proposes that floor size and setbacks be controlled by a Bulk Control Zone Chart and Upper Tower Area Chart. It would assign bulk limits based on a building's proposed height and would limit upper floor areas so that the highest levels of proposed buildings would conform to progressively more restrictive bulk limits than would lower floor levels (see GDD, pp. A-8 to A-11).

GDD would allow ground-floor retail space in establishments of 2,000 square feet or less to be excluded from the calculation of gross floor area. For the portion of the site located in the C-3-G, GDD would require usable open space, cultural or recreational space at a ratio of 1:30 of the total building area.

Alternative D would conform to the controls proposed in GDD. Table 25, below compares Alternative D with the GDD maximum. Alternative D would construct a total of 965,700 square feet of retail, office, residential and hotel use. On the assumption that some of the retail space would be subdivided into establishments of less than 2,000 square feet, a portion of the retail component would not be counted in the gross floor area.

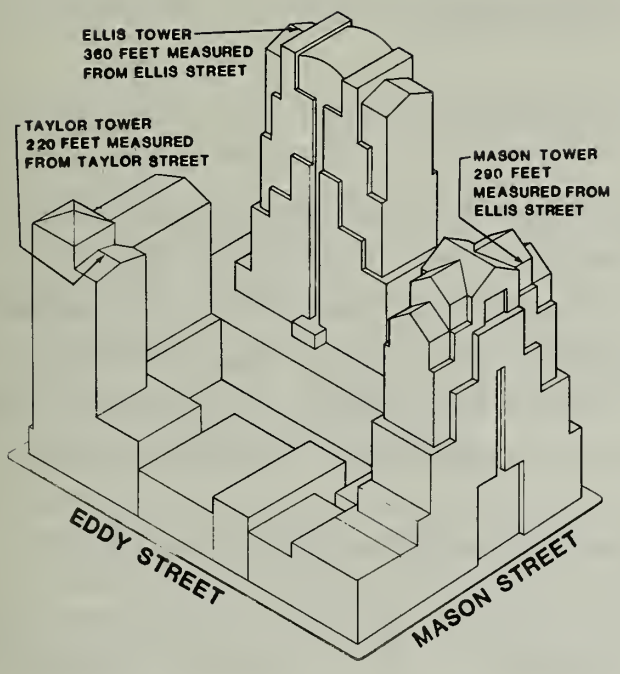
TABLE 25: ALTERNATIVE D: GUIDING DOWNTOWN DEVELOPMENT, July 1982 COMPARED TO THE PROPOSED PROJECT

	Alternative D					GDD	Proposed
	Rehab	Mason	Ellis	Taylor	Total	Maximum	Project
Retail*	13,300	16,700	17,800	10,200	58,000		58,000
Office*	0	0	120,000	90,000	210,000		218,600
Hotel*	42,700	329,700	0	0	372,400		375,700
(Units)	130	450	0	0	580		585
C-3-G/1/ Residential*	31,500	0	293,800		325,300		318,600
Total Gross Area	87,500	346,400	431,600	100,200	965,700	1,038,000	970,900
RC-4/2/ Residential*/1/				104,700	104,700 /2/	1,038,000	104,700
Residential (units)/3/	60	0	280	90	430	810	435
Total	87,500	346,400	431,600	204,900	1,070,400	1,038,000	1,075,600

	Rehab	Mason	Ellis	Taylor
Base Height Permitted**	N.A.	220	360	130
Height Permitted with CU**	N.A.	295	360	255
Alternative D Height**	N.A.	/290	360	220
Project Height**	N.A.	260	320	190

* In square feet.
** In feet.
N.A. Not Applicable
/1/ Residential floor area located on the C-3-G portion of the site is counted toward the maximum gross floor area allowed.
/2/ The proposed Taylor Tower is located on Lot 10, which is the only lot on the project site proposed as an RC-4 district in GDD. Unlike the C-3-G district, residential floor area in the RC-4 district is not included in the FAR calculations (i.e. overall maximum gross floor area).
/3/ The number of residential units is regulated separately from the floor area. All units, regardless of which district they are located in, are counted toward the density allowed.

SOURCE: Whisler-Patri Architects.



SOURCE Whisler-Patri

Block 331 MIXED USE DEVELOPMENT

FIGURE 38
Alternative D:
Guiding Downtown Development, July 1982

As with the proposed project, approximately 87,500 square feet of residential and commercial space on-site, and approximately 45,000 square feet of residential and commercial space off-site would be rehabilitated and retained for low-income use. Figure 38, on the left, shows the Alternative D proposal.

Alternative D would contain about 23,000 square feet of the approximately 25,600-square-foot GDD open-space requirement; the remainder would be provided off-site.

Alternative D would comply fully with the recommended loading requirement adopted by the Planning Commission (Resolution 9286) which also reflect the GDD loading requirement. The 370 new residential units and 60 rehabilitated units contained in Alternative D would more than offset the calculated requirement of about 190 units under GDD.

COMPARISON OF ENVIRONMENTAL EFFECTS

Environmental effects of this alternative on transportation, air quality, energy, economics, fiscal and housing factors would not be measurably different from those of the project, because of similar floor area and distribution of project uses (see Table 25, p. 168).

STATUS OF ALTERNATIVE

On the assumption that a Conditional Use authorization would be granted for height increases of the Mason and Taylor Towers, the sponsor would consider developing Alternative D. However, the sponsor believes the design of the Taylor Tower in the proposed project provides a more efficient residential layout and attractive appearance than does Alternative D.

ALTERNATIVE E: OFFICE/RESIDENTIAL DEVELOPMENT

DESCRIPTION OF OFFICE/RESIDENTIAL ALTERNATIVE

The principal distinguishing feature of this alternative is that a residential use instead of a hotel use would be developed in the Mason Tower. The total amount of new construction would be 981,400 square feet, 6,600 square feet fewer than in the proposed project. This alternative would provide about 35% more residential space and 30% more office space than the project. The heights of the towers would be the same as for the proposed project (see Table 26, below). As in the proposed project, 87,500 square feet of residential hotel, apartments and ground-floor commercial space would be rehabilitated on-site. Off-site rehabilitation of the Hotel Zee would not be included in Alternative E.

TABLE 26: ALTERNATIVE E: OFFICE/RESIDENTIAL DEVELOPMENT COMPARED TO THE PROPOSED PROJECT

	Alternative E/1/				
New Construction/2/	Mason Tower	Ellis Tower	Taylor Tower	Total	Proposed Project Total
Retail/Commercial (sq. ft.)	28,400	17,800	10,200	56,400	44,700
Office (sq. ft.)	98,800	120,000	98,600	317,400	218,600
Hotel (sq. ft.)	0	0	0	0	332,900
Rooms	0	0	0	0	455
Residential (sq. ft.)	215,800	287,100	104,700	607,600	391,800
Units	200	270	100	570	370
Total (sq. ft.)	343,000	424,900	213,500	981,400	988,000
Alternative E Height (ft.)	260	320	195		
Proposed Project Height (ft.)	260	320	190		

/1/ Based on a site area of about 96,285 gross sq. ft., which is the same area that the proposed project would develop.
/2/ Totals do not include 87,500 sq. ft. of rehabilitated residential hotel, apartment and ground-floor commercial space.

SOURCE: Whisler-Patri Architects.

COMPARISON OF ENVIRONMENTAL EFFECTS

Because the exterior design of Alternative E would be the same as that of the proposed project, urban design and shadow effects of this alternative would be the same. Alternative E would generate a net housing demand of 282 units as compared to the project's net demand of about 190 units. The 570 units of new, and the 190 units of rehabilitated, residential use would offset this increased demand. A total of 1,340 permanent jobs would be created, about five percent more than project employment. Fewer unskilled and semi-skilled jobs would be provided, as no hotel use would be included in Alternative E.

About 90 p.m. peak-hour vehicle trip ends and 450 Muni trips would be generated by Alternative E; by comparison, the project would generate 125 p.m. peak-hour vehicle trips and 425 Muni trips. Air quality effects of this alternative would be similar to those of the project.

Because Alternative E would provide approximately 100,000 more square feet of office space than the project, this alternative would contribute more to cumulative downtown office development and its associated impacts than would the project (see Appendix C, Table C-2, pp. A-53 - A-55).

STATUS OF ALTERNATIVE

Alternative E has been rejected by the project sponsor. The sponsor believes that development of the site in only office/retail and residential uses would not provide a complementary mix of uses that would attract people to the project block. Because no hotel use would be developed, Alternative E would not provide additional hotel-room tax revenues to the City, nor would it provide unskilled and semi-skilled jobs for residents of the Tenderloin and the City as a whole.

ALTERNATIVE F: ORIGINAL (1981) DEVELOPMENT ALTERNATIVE

DESCRIPTION OF ORIGINAL (1981) ALTERNATIVE

This alternative would consist of a total of 1.2 million gross square feet of new construction, and, as in the proposed project, about 87,500 square feet of rehabilitated

residential hotel, apartment, and ground-floor commercial space (see Table 27, below); off-site rehabilitation of the Hotel Zee would not occur. As with the project, new construction would consist of residential, hotel, office, and retail space. This alternative has been described essentially in the December 18, 1981 Initial Study (see Appendix A, p. A-1); square footages and total number of residential units have been modified slightly. Alternative F would feature a landscaped, through-block galleria, flanked by small retail shops on three levels. In Alternative F, off-street loading would be located directly adjacent to the street (see Figure 39, p. 173), whereas the project would provide surface-level through-block loading facilities. In contrast to the proposed project, Lot 1A, containing the 28-unit Diamond residential hotel, would not be included for development in this alternative.

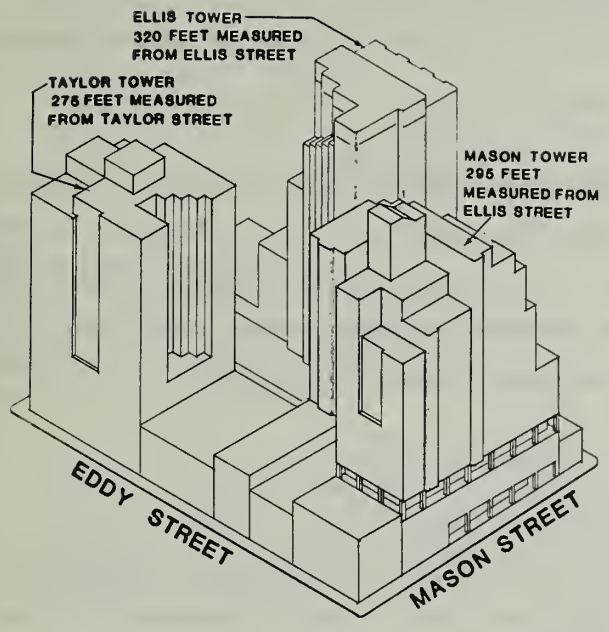
TABLE 27: ALTERNATIVE F: ORIGINAL 1981 DEVELOPMENT COMPARED TO THE PROPOSED PROJECT

	Alternative F/1/				
New Construction/2/	Mason Tower	Ellis Tower	Taylor Tower	Total	Proposed Project Total
Retail/Commercial (sq. ft.)	60,900	8,400	15,000	84,300	44,700
Health Club (sq. ft.)	18,800	0	0	18,800	
Office (sq. ft.)	0	0	69,400	69,400	218,600
Hotel (sq. ft.)	0	417,600	0	417,600	332,900
Rooms	0	500	0	500	455
Residential (sq. ft.)	340,700	0	284,300	625,000	391,800
Units	270	0	225	495	370
Total (sq. ft.)	420,400	426,000	368,700	1,215,100	988,000
Alternative F Height (ft.)	295	320	275		
Proposed Project Height (ft.)	260	320	190		

/1/ Based on a site area of about 96,285 gross sq. ft., which is the same area that the proposed project would develop.
/2/ Totals do not include 87,500 sq. ft. of rehabilitated residential hotel, apartment and ground-floor commercial space.

SOURCE: Whisler-Patri Architects.

COMPARISON OF ENVIRONMENTAL EFFECTS



SOURCE
Whisler-Patri

Block 331
MIXED USE DEVELOPMENT

FIGURE 39
Alternative F:
Original (1981) Development
of the Project Block

Alternative F would not comply with the height, bulk and floor area ratio requirements of the interim RC-4/C-3-G Planning Use Code Districts. As with the proposed project, the Planning Commission would be required to grant Conditional Use authorization for project approval. The Mason and Taylor Towers of this alternative would be taller than those of the proposed project, by 35 and 84 feet, respectively. As a result, net new project shadows cast on the sidewalks of Taylor, Mason, and Ellis Sts. would be longer than project shadows. During the early morning hours of spring, summer, and fall, more-extensive shadows would be cast by Alternative F on the site of the proposed Central City Park.

Wind effects of this alternative are discussed in detail in Appendix B, pp. A-29 - A-50 (referred to in wind tunnel study as Alternative 2). During a west wind, Alternative F would increase the wind speed ratio from moderately low to moderate at the Taylor - Eddy Sts. intersection and at the Ellis - Mason Sts. intersection; southwest winds at Eddy and Ellis Sts. would be decreased from moderate to moderately low.

The 1.2 million square feet of new construction in Alternative F would create a net increase of about 800 jobs, as compared to an estimated net project employment of 1,280 jobs. Housing demand generated by office uses constructed in Alternative F would be about 60 units, as compared to the project's net demand of about 190 units. As in the proposed project, this demand could be met by new housing units created on-site. Alternative F would not demolish the 28-unit Diamond Hotel; this residential hotel would be retained but not rehabilitated as a result of the project.

Alternative F would generate 125 peak-hour net vehicle trip ends, as compared to the project's generation of 120 net vehicle trip ends. Alternative F would add 425 Muni trips during the p.m. peak hour, a 2% increase over Muni trips generated by the proposed project. The 600 parking spaces provided in Alternative F would exceed the estimated demand of 545 spaces, as would those provided in the project. As with the proposed project, Alternative F would not, by itself, cause violations of state or Federal carbon monoxide standards.

Alternative F would contribute about 150,000 fewer square feet of office space to cumulative Downtown office development than the project. However, because of the greater amount of residential and hotel space in this alternative, compared to that in the project, Alternative F would be expected to make a slightly greater contribution to cumulative traffic, air quality, and public service impacts than the project.

STATUS OF ALTERNATIVE

Alternative F was proposed by the sponsor in the fall of 1981, prior to the interim C-3-G/RC-4, NOMPC, NOM - MUD and GDD (July 1982) rezoning proposals for the Tenderloin. Alternative F could not be approved under any of these four zoning proposals, and could be approved only under the previous C-3-G zoning for the project block. If the previous C-3-G zoning were to be reinstated, the sponsor would consider developing Alternative F.

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c/o Cooper, White and Cooper
44 Montgomery Street, #3300
San Francisco, CA 94104

First California Title Co.
c/o Mario Ordano
124 Mason Street
San Francisco, CA 94102

Mario Ordano
238 Eddy Street
San Francisco, CA 94102

Ramanbhai Patel
160 Eddy Street
San Francisco, CA 94102

Roman Catholic Archbishop of
San Francisco
445 Church Street
San Francisco, CA 94114

Melba Ariani
4524 Fuller Street
Santa Clara, CA 95050

Dorothy Levin
50 Mason Street
San Francisco, CA 94102

Tayed
c/o Thomas F. Mulvihill
1695 12th Avenue, #3
San Francisco, CA 94122

Glide Foundation Board of Trustees
330 Ellis Street
San Francisco, CA 94102

William and Linda Erkelens
2400 Broadway
San Francisco, CA 94102

Vasilios and Christine Glimidakis
141 Eddy Street
San Francisco, CA 94102

Frances L. Dinkelspiel
c/o Hanford-Freund
47 Kearny Street
San Francisco, CA 94108

Estate of Samuel Hamburger
c/o Raymond H. Levy, Attorney
703 Market Street, #600
San Francisco, CA 94103

Roman Catholic Archbishop
of San Francisco
301 Ellis Street
San Francisco, CA 94102

Tsun-Nin Lee and Kathy Cheng-Ping
96 Country Club Drive
San Francisco, CA 94132

Ann Hamburger
520 South El Camino Real, #818
San Mateo, CA 94402

Stuart Chandler
Gems and Jewelry Loan Co.
147 Mason St.
San Francisco, CA 94102

PROJECT SPONSOR

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Napa, CA 94558
Attn: Leslie Jacob, Ph.D., CPA

PROJECT ARCHITECTS

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Vallejo, CA 94590
Attn: Robert Gianelli

Whisler-Patri
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San Francisco, CA 94015
Attn: Jeff Pribyl

APPENDICES

APPENDIX A

DEPARTMENT OF CITY PLANNING 100 LARKIN STREET SAN FRANCISCO CALIFORNIA 94102
(415) 552-1134

NOTICE THAT AN
ENVIRONMENTAL IMPACT REPORT
IS DETERMINED TO BE REQUIRED

Date of this Notice:
December 18, 1981

Lead Agency: City and County of San Francisco, Department of City Planning
100 Larkin Street, San Francisco, CA. 94102

Agency Contact Person: Diane Oshima Tel: (415) 552-1134

Project Title: 81.448E:
Mixed Use Development Proposal

Project Sponsor: Theme Resorts, Inc.

Project Contact Person: Leslie Jacob

Project Address: Block bounded by Ellis, Eddy, Mason and Turk Streets

Assessor's Block(s) and Lot(s): Lots 1A, 2-8, 10-16 in Assessor's Block 331

City and County: San Francisco

Project Description: Construction of towers ranging 25 to 29 stories containing hotel, retail; office and residential uses (approximately 1,240,000 square feet) and rehabilitation of three residential hotels and two apartment buildings providing approximately 265 low/moderate income units, requiring demolition of six buildings(five are commercial /entertainment uses, one is a six unit apartment building), providing approximately 600 off-street parking spaces in three underground garage levels.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15081 (Determining Significant Effect), 15082 (Mandatory Findings of Significance) and 15084 (Decision to Prepare an EIR), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: December 28, 1981.

An appeal requires 1) a letter specifying the grounds for the appeal, and 2) a $25.00 filing fee.

Alec S. Bash

Alec S. Bash, Environmental Review Officer

FINAL INITIAL STUDY

MIXED USE DEVELOPMENT PROPOSAL

ASSESSOR'S BLOCK 331

ELLIS/EDDY/MASON/TURK STREETS

SAN FRANCISCO

81.448E

DECEMBER 1981

NOTE TO READER:

The currently proposed project differs from the development that was analyzed in this Initial Study; the current project is 20% smaller with a different design, includes the Diamond Hotel parcel, but excludes the Mason Hotel parcel, and includes the off-site rehabilitation of the Hotel Zee. Potential effects that were found in the Initial Study to be insignificant for the previous proposal remain so for the current project.

ENVIRONMENTAL ASSESSMENT CHECKLIST
(Initial Study)

Project File No: 81.448E Title: Mixed Use Development Proposal
Assessor's Block 331

S.F. Assessor's Block and Lot: AB 331, Lots 1A, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, and 16

A. PROJECT DESCRIPTION

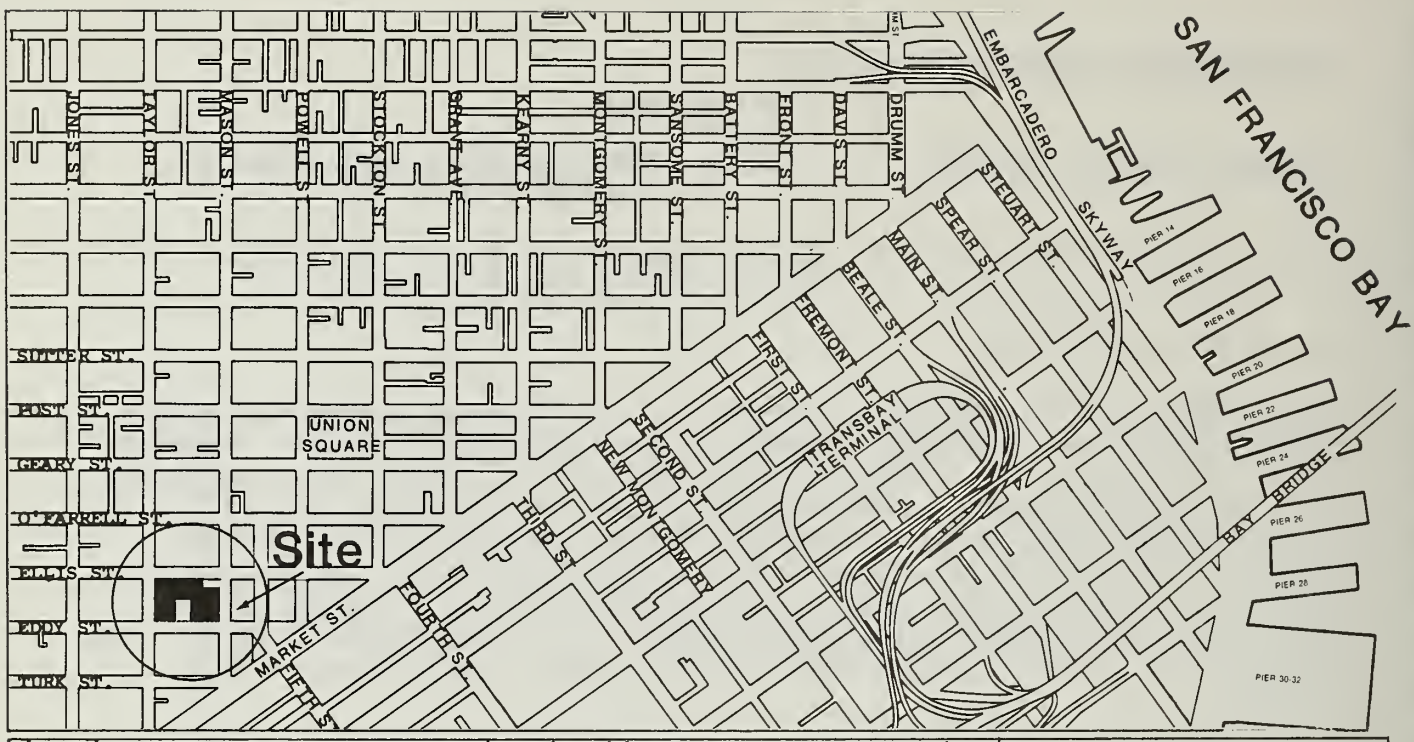
Theme Resorts, Inc. proposes to construct a mixed-use residential and office condominium, hotel, and retail complex on Assessor's Block No. 331, (Lots 1A, 2, 3, 4, 5, 10, 11, 14, 15, and 16), bounded by Ellis, Eddy, Taylor and Mason Sts. Existing apartment and residential hotel uses on Lots 6, 7, 8, 12 and 13 of the project block would be rehabilitated and retained as part of the project. The two remaining uses on the project block, the three-story Diamond Hotel (Lot 1) and the four-story William Penn Hotel (Lot 9), would not be included in the proposed project (see Figure 1, p. 2 and Figure 2, p. 3). The William Penn Hotel is part of the Urban Development Action Grant (UDAG) program.

The project site is located in the eastern Tenderloin, two blocks north of Market St. The existing Hilton Hotel and Tower is located opposite the site on Ellis St. Three hotel developments have been approved or proposed on the blocks surrounding the project site: (1) the Hotel Ramada, (2) Holiday Inn, both of which have been approved; and (3) the Hilton Tower No. 2 which was proposed in 1980, but is not being planned for construction at this time (see Figure 1, p. 2). Additionally, the Aspen Group is proposing a housing rehabilitation project located on the blocks bounded by Eddy, Jones, Taylor, and Turk Sts., and the northern half of the block bounded by Turk, Jones, and Taylor Sts., and Golden Gate Ave.

The basic plan of the project would consist of the construction of three towers ranging from 25 to 29 stories (260 to 320 ft. in height) connected by a three-level enclosed galleria, and the retention and rehabilitation of a total of five existing residential hotel and apartment buildings. The three proposed towers and galleria would contain a total of about 1.2 million sq. ft. of new construction, excluding underground parking facilities (see Table 1).

Retail uses would be located at ground level in all three towers. Pedestrian access to retail areas would be through the Galleria and from exterior sidewalk entrances. In addition to proposed landscaping in the Galleria and plaza areas, street trees would be planted at the northeast corner of the project block and along Ellis St.

Tower One, a 26-story residential tower, would have the main facade and entrance on Mason St. The first three levels would contain 60,000 sq. ft. of retail space which would accommodate a single use such as a retail department store with an interior first-floor entrance to the Galleria mall. Above the three levels of retail space, the fourth level of Tower One would contain a 19,000-sq.-ft. health and recreational facility, including an open air running track extending around the entire outside perimeter of the fourth floor.



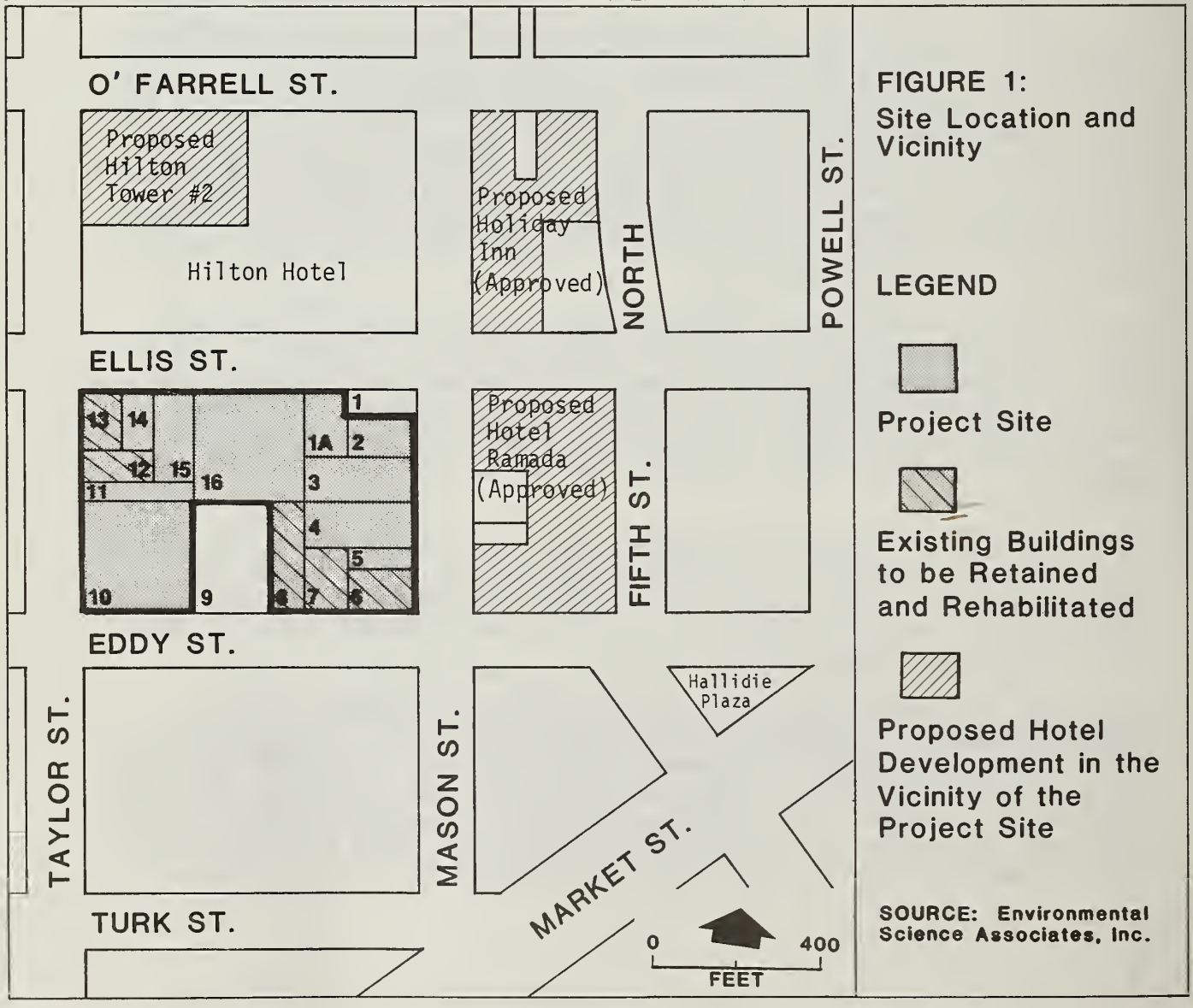


FIGURE 1:
Site Location and Vicinity

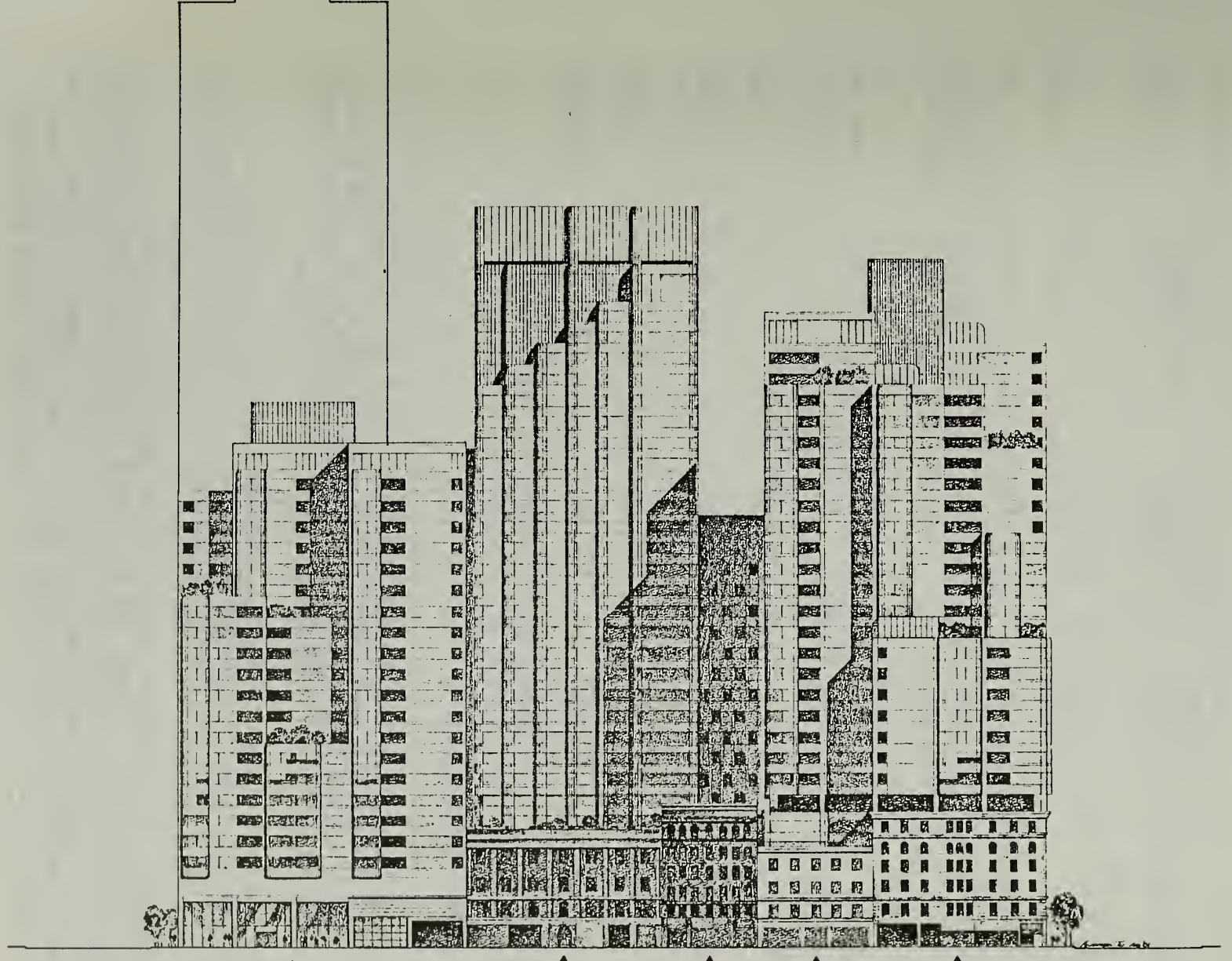
LEGEND

Project Site

Existing Buildings to be Retained and Rehabilitated

Proposed Hotel Development in the Vicinity of the Project Site

SOURCE: Environmental Science Associates, Inc.



SOURCE: Beland-Gianelli-International Architects

FIGURE 2:
Eddy Street Frontage of Proposed Project (South Elevation)

TABLE 1: PROPOSED NEW USES (Gross Sq. Ft.)

	TOWER ONE	TOWER TWO	TOWER THREE	TOTAL
RETAIL COMMERCIAL	60,000	10,100	11,000	81,100*
HEALTH CLUB AND RECREATIONAL FACILITIES	18,900	-0-	500	19,400
OFFICE CONDOMINIUMS	-0-	-0-	71,800	71,800
CONDOMINIUM APTS.	318,900 (250 units)	-0-	289,200 (225 units)	600,100 (475 units)
HOTEL				
Rooms (500)	-0-	402,000	-0-	402,000
Restaurant Bar & Kitchen	-0-	23,600	-0-	23,600
Meeting Rooms	-0-	8,800	-0-	8,800
Common Service Areas and Office	-0-	24,800	-0-	24,800
TOTAL	397,800	469,300	372,500	1,239,600

* Total does not include approximately 15,080 sq. ft. of floor area encompassing the enclosed, three-level Galleria.

SOURCE: Theme Resorts, Inc.

The remaining twenty-two floors would include a total of 250 condominium apartment units each with an average living space of 930 sq. ft. The elevator banks, security system, and entrance lobby of the condominium apartments would be completely separated from the retail space and the Galleria.

Tower Two would front onto Ellis St., and would consist of a 29-story, 500-room first-class hotel. The porte cochere on Ellis St. would extend into a landscaped open plaza and provide the entrance to the Galleria and the major retail space of Tower One. The first floor will be used exclusively for the hotel lobby with facilities to serve arriving and departing guests. The second and third floors of Tower Two will house the hotel's principal dining and cocktail lounge establishments; a portion of the third level will be used as offices for the hotel operations. The total retail commercial space on the second and third floors would be 10,100 sq. ft. The fourth and fifth levels will be combined into one floor to provide double height meeting and banquet rooms.

Tower Three would be located at the corner of Eddy and Taylor Sts. The ground level of this 25-story tower would contain approximately 11,000 sq. ft. of retail commercial space. Most of the space would be reserved for a major neighborhood-serving grocery store with entrances on Taylor and Eddy Sts. The next four floors would contain office condominiums, with floors six through twelve containing about 90 condominium apartment units. These units would be available for moderate-income housing if low-interest mortgage financing is available through local, state or federal government. The upper 13 floors of the tower would contain about 135 condominium apartment units with an average living space (930 sq. ft.) comparable to that of units contained in Tower One. The retail, office, and residential components of Tower Three would each have separate entrances, elevators banks, and stairwells.

The Galleria would have entrances on Mason, Ellis and Taylor Sts. Located at the street level would be a landscaped inner-garden flanked by small shops leading to the hotel lobby and to the three-story, 60,000-sq.-ft. retail space contained in Tower One. From Ellis St., the entrance to the Galleria mall would be through the hotel entry plaza with direct access to the hotel lobby.

On the Mason St. side, the Galleria would terminate at the retail space of Tower One. Stairwells would lead to the second floor of the Galleria, which would contain a garden restaurant opening onto the Galleria mall and providing a direct entrance to the main restaurant and bar of the hotel and to the second floor of the shopping complex. The Taylor St. entrance to the Galleria would provide access to interior entrance of all three tower. Stairs would lead to the third-level gourmet restaurant located within the hotel and to the third floor of the Tower One retail space. Most of the second and third floor areas of the Galleria would open below to the first floor, creating an atrium effect with inner plazas and balconies (see Figure 3, p. 6).

Parking would be provided on three underground levels for approximately 600 cars. One parking space would be provided for each of the approximately 475 condominium apartments, and the remaining 125 spaces would be used mainly by hotel guests. No daytime parking would be provided for shoppers and other daytime users of the hotel and retail Galleria. The porte cochere located on Ellis St. would contain the vehicular-arrival and luggage-handling area for the hotel in Tower Two. The ingress/egress points to the three levels of underground parking would be located at Ellis and Eddy Sts. Entrance ramps to the underground parking levels would be located on the western ends of Ellis and Eddy Sts. Each tower would have separate off-street loading docks (see Figure 3, p. 6). Up to seven curb cuts would be required for access to underground parking and surface level, off-street loading facilities.

A total of 14 ground-level businesses contained within the five residential buildings would also be rehabilitated and retained for neighborhood-serving business uses.

The Basic Floor Area Ratio (FAR) of the project would be approximately 14:1, including a total project land area of 98,554 sq. ft. There would be 1,239,600 sq. ft. of new construction for Towers One, Two and Three; 15,080 sq. ft. of new construction for the Galleria, and an estimated

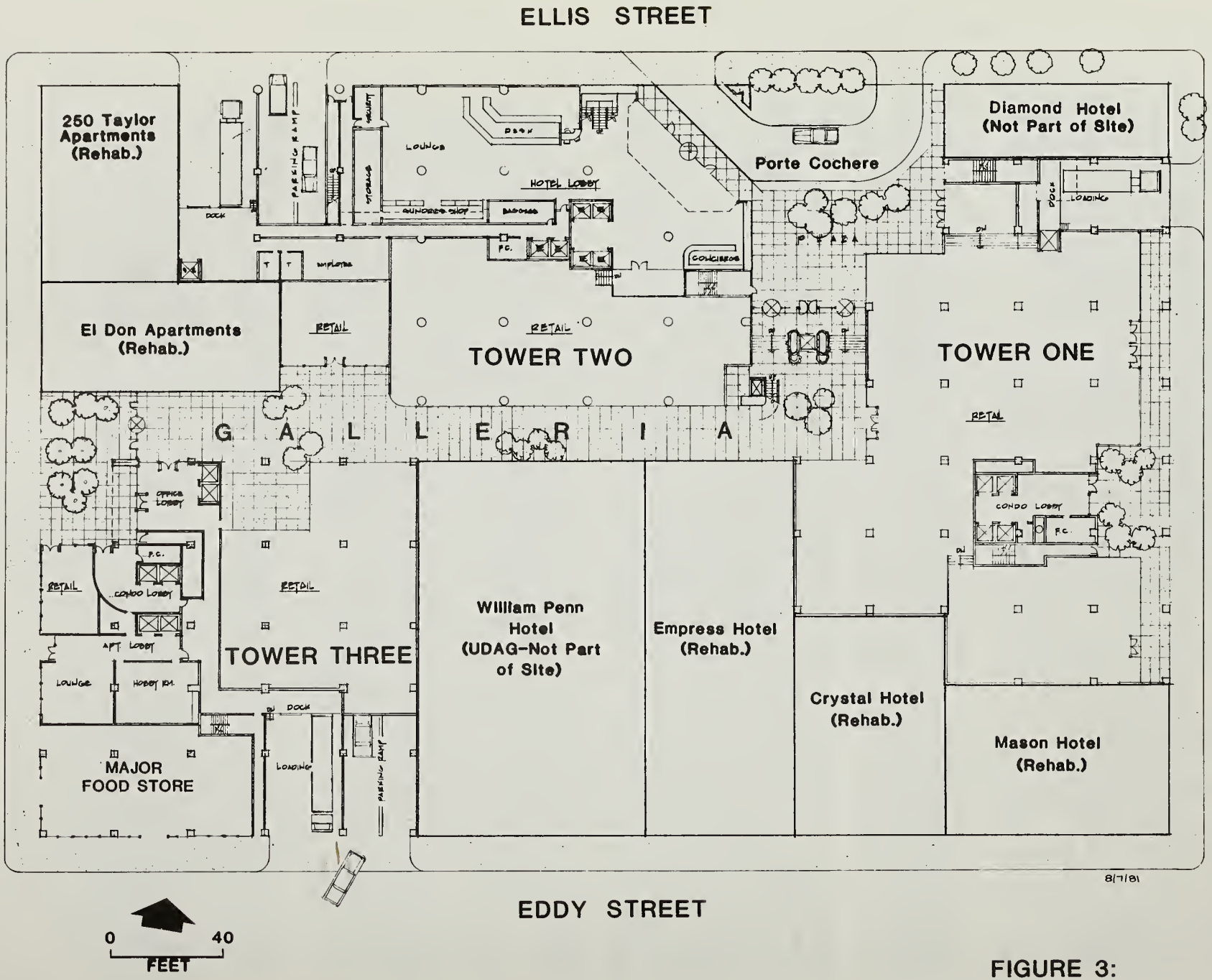


FIGURE 3:
Street Level Plan

Source: Beland-Gianelli-International Architects

125,000 sq. ft. of existing building space to be rehabilitated, for a total project floor area of approximately 1,355,680 sq. ft. The FAR of the project would exceed the maximum pemitted FAR of 10:1 for the project site, the sponsor would request about 370,000 sq. ft. of applicable floor area bonuses and a Planned Unit Development (PUD) zoning classification for the project.

Demolition of six buildings on lots 1A, 3, 5, 11, 14, 15 and 16 would be required. Uses in these buildings include a health club, adult theater, dance studio, bank, six apartments (currently occupied), and six retail stores. Four public parking facilities, three parking lots and one parking structure, providing about 475 parking spaces would be removed. The remaining five residential buildings on the site would be retained and rehabilitated as part of the project.

Rehabilitation of a total of five existing residential hotels and apartment buildings would be included in the project. Three residential hotels the Mason, Crystal, and Empress Hotels, containing a total of about 200 rooms, would be rehabilitated and placed back into use as low-income residential hotel units. As about half of these units are currently vacant or are used as transient hotel rooms, the project would provide a net increase of about 100 units to the City's low-income housing stock. The two apartment buildings on Taylor St., the El Don and 250 Taylor Apartments, contain a total of about 65 studio apartments which would also be rehabilitated for low-income residential apartments. These five buildings would be initially managed by the project sponsor in cooperation with the City of San Francisco, and subsequently donated to a designated charitable community organization to administer as low-income units.

Excavation and project construction would begin in late 1982 and would continue for approximately 24 months until project completion and initial occupancy in late 1984.

POTENTIAL ENVIRONMENTAL EFFECTS:

Potential environmental issues resulting from the proposed project include: circulation and loading requirements; effects on existing vehicular and transit systems, on pedestrian ways, and on parking and off-street loading facilities; construction-related air quality; land use compatibility; urban design considerations and shadow effects; construction noise impacts; wind effects; air quality impacts; subsurface dewatering; energy demand; and additionally, indirect economic and social effects caused by cumulative development in the Tenderloin neighborhood. These issues will be analyzed in detail in subsequent environmental documentation for the project. Cumulative transportation, air quality, construction noise; and land-use effects of the proposed project and the Holiday Inn and Hotel Ramada projects are also potential environmental issues.

Potential environmental issues associated with the project that were determined in this Initial Study to be insignificant, or have been mitigated to a level of insignificance will not be addressed in subsequent environmental documentation, and are described below.

Operational Noise: After completion, operation of the project and project-generated traffic would not increase audible noise levels in the project vicinity; nor would cumulative development, including the proposed project, increase audible noise levels in the vicinity. Noise insulation features would be included in the project design to comply with residential and hotel noise standards of Title 25 of the California Administrative Code.

Public Services and Utilities: The increased demand for public services and utilities attributable to the project would not require additional personnel or equipment, with the exception of fire protection services in the case of a major fire or disaster.

Biology: The project would have no effect on plant or animal life as the site is completely urbanized.

Hazards: The site and the project would neither cause nor be affected by hazardous uses or health hazards.

Cultural/Historic: No cultural groups or structure of architectural or historic importance would be affected by project implementation. See pp. 21-22 for a description of architecturally or historically rated buildings on the project site, and p. 25 for measures incorporated into the project that would mitigate potential effects on cultural groups, and which would be applied if any artifact, structural remnant, or other type of archaeological resource were found during project excavation.

A. GENERAL CONSIDERATIONS:

	Yes	Maybe	No	N/A	Disc.
1. Would the project conflict with objectives and policies in the Comprehensive Plan (Master Plan) of the City?		X			X
2. Would the project require a variance, or other special authorization under the City Planning Code?	X				X
3. Would the project require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal agencies?			X		
4. Would the project conflict with adopted environmental plans and goals?			X		X

The project would provide rehabilitated housing, new housing, commercial office space, and hotel and retail uses in Downtown San Francisco near local and regional transit facilities. In doing so, the project would comply with

major provisions of the Comprehensive Plan. It would be consistent with Objective 3 of the Commerce and Industry Element of the Comprehensive Plan by maintaining and improving San Francisco's position as "a prime location for financial, administrative, corporate, and professional activity", and would comply with policies to "maintain a compact downtown core" and to "provide adequate amenities for those who live, work and use Downtown". The proposed hotel tower, Tower Two, would address Objective 7 of the Commerce and Industry Element which is to "enhance San Francisco's position as a national center for conventions and visitor trade." The project would be responsive to the Residential Element of the Comprehensive Plan which recommends "highest density housing (over 20-unit apartments)" for the project area and places "highest priority on rehabilitation of residential areas ...." (Objective 1, Policy 1).

The project would carry out the intent and purpose of the City's Residential Hotel Unit Conversion and Demolition Ordinance (Ordinance No. 330-81) by maintaining about 200 residential hotel rooms as low-income units. Additionally, the project would comply with recently proposed Department of City Planning (DCP) policies which point to a general need to address the concern of "an imbalance in the supply of housing, relative to demand ..."; and, would provide "usable indoor open space, accessible to the public, as part of new downtown development" through the inclusion of a through-block pedestrian way, plaza, and galleria as outlined in the Department of City Planning study document entitled Guiding Downtown Development, May, 1981. The project would require discretionary review and Conditional Use authorization by the City Planning Commission for development (floor area) bonuses permitted for the provision of housing within the downtown commercial (C-3) district; and for consideration of the project as a Planned Unit Development (PUD).

Existing Planning Code. The project site is located in the C-3-G, Downtown General Commercial, Planning Code Use District, which permits a variety of uses, including hotels, retail, offices, entertainment, and high-density residential development. The basic permitted Floor Area Ratio (FAR) for the C-3-G district is 10:1. The project would have a total FAR of about 14:1; the project sponsor would request approximately 370,000 sq. ft. of allowable development (floor area) bonuses.

The site is located in a 320-I Height and Bulk District in which the maximum permitted height is 320 ft. Above a height of 150 ft., the maximum permitted building length is 170 ft. and the maximum permitted horizontal diagonal dimensions is 200 ft. The tallest tower, Tower Two, would not exceed the 320 ft. height limit. The maximum diagonal dimension of each tower above 150 ft. is not known at this time.

NOMPC Rezoning Proposal. In May, 1981, the North of Market Planning Coalition (NOMPC) submitted a rezoning proposal for the Tenderloin area. The project site is on the eastern edge of the NOMPC's proposed Core Tenderloin Special Use District where the proposal recommends a zoning reclassification of RC-4 with a basic FAR of 4.8:1, and a height limit of 80 ft. If compared to the NOMPC proposals, the project would exceed the recommended height by 180 to 250 ft., and would exceed the recommended FAR by about 9.2:1.

Any application for an amendment to the City Planning Code, including rezoning of property, must be approved by both the City Planning Commission and the Board of Supervisors.

The City Planning Commission has not yet taken action on the NOMPC rezoning proposal.

Guiding Downtown Development. Recommendations in Guiding Downtown Development propose a 240-S Height and Bulk limit and a basic FAR of 8:1 for the project area.

Housing Policies. Approximately 35% of the project's total residential units would be for low-income residents. This is consistent with the City's recently adopted housing ordinance (Ordinance No. 337-79) which requires a minimum of 10% of the units in large housing projects for low- and moderate-income residents.

Parking Requirements. The project sponsor proposes to provide a total of 600 parking spaces in the project's underground parking facility. The project would exceed permitted accessory parking by about 340 spaces.

A Conditional Use authorization would be required to provide parking in excess of permitted accessory parking (CPC, Section 157). The project's three off-street loading freight spaces for each Tower would comply with Section 152 of the City Planning Code. Presently there are a total of about 475 public parking spaces of the project site; these spaces would be eliminated by the project.

Open Space Requirements. Section 135 of the City Planning Code requires 36 sq. ft. of private usable open space for each residential dwelling unit. Total open space requirements of the project have not been determined yet; the proposed Galleria and recreational facilities proposed for Towers One and Three would be included as part of this requirement.

The EIR will provide additional information and analysis in regards to the recommendations identified in Guiding Downtown Development.

B. ENVIRONMENTAL IMPACTS:

	Yes	Maybe	No	N/A	Disc.
1. Land Use. Would the proposed project:					
a. Be different from surrounding land uses?	___	___	X	___	X
b. Disrupt or divide the physical arrangement of an established community?	___	X	___	___	X

Land uses in the vicinity of the project site are primarily commercial, entertainment, residential, and hotel uses. The existing Hilton Hotel and Tower and the sites of the proposed Holiday Inn and Hotel Ramada are within a block of the project site.

The proposed development would change land uses on the site from predominantly low-rise commercial and residential buildings and parking lots to three highrise towers of 25, 26, and 29 stories. The proposed development would have the following uses: hotel, market-rate residences, low- and possibly, moderate-income residences; mixed neighborhood-serving and city-oriented retail commercial area; condominium offices, and parking (600 spaces) for condominum residents, hotel guests, and visitors.

2. Visual Quality and Urban Design. Would the proposed project:

	Yes	Maybe	No	N/A	Disc.
a. Obstruct or degrade any scenic view or vista open to the public?	___	X	___	___	X
b. Reduce or obstruct views from adjacent or nearby buildings?	X	___	___	___	X
c. Create a negative aesthetic effect?	___	X	___	___	X
d. Generate light or glare affecting other properties?	___	X	___	___	X

The proposed towers would not obstruct or degrade scenic views or vistas open to the public. In general, the project would interrupt few, if any, major views from structures to the north and northwest and would not intrude as a dominant element in the San Francisco skyline when seen from most distant vantage points. Specific view information will be provided in the EIR.

The cumulative visual impact of proposed and approved neighboring hotel structures would be to intensify the density of development in the immediate vicinity and to increase the visual identity of the area. Cumulative visual effects will be addressed in subsequent environmental documentation.

Detailed project design plans are not yet available; the project design is generally intended by the project architect to visually complement adjacent structures and to integrate rehabilitated buildings with new construction. The project design is intended to enhance pedestrian use by providing a landscaped through-block passage and pedestrian-oriented street facade treatment.

The fenestration and types of glass that would be used have not been determined yet; glare and light effects will be discussed in subsequent environmental documentation.

3. Population/Employment/Housing. Would the proposed project:

	Yes	Maybe	No	N/A	Disc.
a. Alter the density of the area population?	X	___	___	___	X
b. Have a growth-inducing effect?	___	X	___	___	X

	Yes	Maybe	No	N/A	Disc.
c. Require relocation of housing or businesses, with a displacement of people, in order to clear the site?	X				X
d. Create or eliminate jobs during construction and operation and maintenance of the project?	X				X
e. Create an additional demand for housing in San Francisco?			X		

The project would increase permanent residential, day-time office, hotel guest, and retail shopper populations in the project area. Approximately ten businesses and five parking lots, employing up to 50 persons, would be displaced by project construction; residents of the six apartment units at 229 Ellis St. would also be displaced.

Residents of the five residential buildings that would be rehabilitated as part of the projects would be temporarily relocated to presently vacant units on the block during the rehabilitation of those buildings.

A net increase of up to 1150 permanent jobs would be created by the project. Approximately 70% of those jobs would be hotel and retail/restaurant jobs, which provide employment opportunities for low-skilled workers currently living in San Francisco. Construction jobs would also be generated by the project during the two-year construction period.

The proposed project would provide a total of about 740 housing units, including 265 low-income units contained in the six existing residential buildings on the site that would be retained and rehabilitated (as low-income units); 90 affordable condominium apartments; and 385 market-rate condominium apartments.

The project sponsor would retain the 14 ground-level retail spaces contained in the six residential buildings for neighborhood-serving retail uses.

The project, in combination with the proposed Holiday Inn, Hotel Ramada, and Hilton Tower No. 2, and the Aspen Group's housing project could have indirect economic effects on the Tenderloin neighborhood.

Subsequent environmental documentation for the project will include more detailed analysis of the project's employment and population effects.

4. Transportation/Circulation. Would the construction or operation of the project result in:

	Yes	Maybe	No	N/A	Disc.
a. Change in use of existing transportation systems?	X				X
b. An increase in traffic which is substantial in relation to existing loads and street capacity?		X			X

	Yes	Maybe	No	N/A	Disc.
c. Effects on existing parking facilities, or demand for new parking?	X				X
d. Alteration to current patterns of circulation or movement of people and/or goods?	X				X
e. Increase in traffic hazards to motor vehicles, bicyclists or pedestrians?		X			X
f. A need for maintenance or improvement or change in configuration of existing public roads or facilities?		X			X
g. Construction of new public roads?			X		

The project would result in an increased use of existing transportation systems, both nearby freeways and local streets, and the local Municipal Railway (Muni) transit and regional transit systems which serve downtown San Francisco. The present pattern of movement of goods would change as a result of the new loading docks icluded in the project.

A detailed analysis on transportation, circulation, parking, pedestrian, and mass transit will be provided in subsequent environmental documents. This transportation analysis will include the collective impact of all proposed projects in the vicinity.

The present pattern of movement of goods would change as a result of the new loading docks included in the project. The project would require up to seven curb cuts on Ellis, Eddy, and Mason Sts.

5. Noise.

	Yes	Maybe	No	N/A	Disc.
a. Would the proposed project result in generation of noise levels in excess of those currently existing in the area?	X				X
b. Would existing noise levels impact the proposed use?			X		X
c. Are Title 25 Noise Insulation Standards applicable?	X				X

Demolition of existing structures, foundation preparation, and construction of the building envelopes would result in temporary, intermittent increases in noise levels in the project vicinity for about 24 months. Of primary concern is noise from possible pile-driving activity during for the building's foundation. Construction noise will be further evaluated in subsequent environmental documentation for the project.

The Environmental Protection Element of the Comprehensive Plan indicates an existing day-night average noise level (Ldn) of 70 dBA/1/ on Eddy St. and 65 dBA on Mason St./2/ Project operation is not expected to result in an increase in peak noise levels in the vicinity. Average noise levels could be affected by project-related traffic and operational noise generated by the buildings' mechanical equipment. The downtown noise environment is dominated by vehicular traffic noise. Project-generated traffic is expected to increase traffic noise by less than 2 dBA. Cumulative traffic noise from the project, and from proposed hotel developments in the project vicinity would increase curbside noise levels 1.5 to 2 dBA during peak traffic periods. An increase of 2 dBA would be undetectable to the untrained human ear.

Noise from the project's mechanical equipment would be regulated by the San Francisco Noise Ordinance, Section 2909, "Fixed Source Noise Levels" (San Francisco Municipal Code, Part II, Chapter VIII, Section 1, Article 29, 1972). The project is in the C-3-G District, where the ordinance restricts equipment noise levels at the property line to 70 dBA between 7 a.m. and 10 p.m., and 60 dBA between 10 p.m. and 7 a.m. Mechanical equipment designed to comply with the night-time standard of 60 dBA would probably not be audible within the sound-level context of the project.

The California Administrative Code Title 25 (Chapter 1, Subchapter 1, Article 4) Noise Insulation Standards apply to all new residential structures, with the exception of single-family dwellings. The acceptable outdoor noise levels for residential units was established as a community noise equivalent level (CNEL), equal to 60 dBA./3/ The exterior noise environment of the site exceeds a CNEL of 60 dBA at street level, so the project would require an acoustical analysis to show that the interior hotel and residential CNEL requirement of less than 45 dBA with the windows closed would be met. The Environmental Protection Element of the San Francisco Comprehensive Plan contains guidelines for determining the compatibility of land uses with various noise environments. For residential and office uses, the guidelines recommend no special noise control measures in an exterior noise environment of up to an Ldn of 60 dBA and 70 dBA, respectively. Since the exterior noise environment at the office levels would not exceed 70 dBA, and the project sponsor has acknowledged that the project would be constructed to conform with Title 25 noise insulation standards for residential units, existing noise levels would have no significant effect on the project.

NOTES - Noise

/1/ Decibel (dB) is a logarithmic unit of sound energy intensity. Sound waves, traveling outward from a source, exert a force known as sound pressure level (commonly called "sound level"), measured in decibels. dBA is decibel corrected for the variation in frequency response of the typical human ear at commonly-encountered noise levels.

/2/ L_{dn} is a "averaged sound level measurement based on human reaction to cumulative noise exposure over a 24-hour period, taking into account the greater annoyance of night-time noises (noise between 10 p.m. and 7 a.m. is weighted 10 dBA higher than daytime noise)".

/3/ Community noise equivalent level (CNEL); similar to Ldn except that sound level measurements taken between 7 p.m. and 10 p.m. are weighted 5 dBA higher than daytime sounds in addition to the 10 dBA 10 p.m. to 7 a.m. weighting.

6. Air Quality/Climate. Would the proposed project result in:

	Yes	Maybe	No	N/A	Disc.
a. Violation of any ambient air quality standard or contribution to an existing air quality violation?	X				X
b. Exposure of sensitive receptors to air pollutants?		X			X
c. Creation of objectionable odors?			X		
d. Burning of any materials including brush, trees, or construction materials?			X		
e. Alteration of wind, moisture, or temperature (including sun shading effects), or any change in climate, either locally or regionally?	X				X

The project would result in both short-term air quality impacts from project construction and long-term air quality impacts, primarily from project-related vehicular traffic and to a lesser degree, from the combustion of natural gas for space and water heating.

The project would affect wind ratios at street level, possibly increasing west winds along Eddy and Ellis Sts. The project would increase shadows on sidewalks, streets, and buildings along Eddy, Ellis, Taylor, and Mason Sts.

Air quality, wind, and shadow effects of the project will be evaluated in more detail in subsequent environmental documentation.

7. Utilities and Public Services. Would the proposed project:

a. Have an effect upon, or result in a need for new or altered, governmental services in any of the following?

	Yes	Maybe	No	N/A	Disc.
fire protection			X		X
police protection			X		X
schools			X		X
parks or other recreational facilities			X		X
maintenance of public facilities			X		
power or natural gas			X		
communications systems			X		
water			X		X
sewer/storm water drainage			X		X
solid waste collection and disposal			X		X

Fire. Station No. 13, located at 416 Jessie St. would be the primary response station for fire protection and emergency services. The project would incorporate more-extensive fire protection measures than existing buildings on the project site in order to comply with more-stringent Code standards now in effect. The project would increase the building area and the number of persons using the site.

No additional personnel or equipment would be required to serve the project. Existing fire flows are adequate. As all building construction would comply with Code requirements, the presence of residential units above office floors would not pose any special propblem for normal firefighting procedures/1/.

Overall fire safety conditions on the site would be improved because of the proposed rehabilitation of five existing residential buildings and the construction of new buildings which would comply with more-stringent Life Safety Code requirements./2/

Police. The project site is within the Central Police District with headquarters at 766 Vallejo St. The area is patrolled 24-hours a day by radio-dispatched patrol cars. The project site is located in an area that has one of the highest incidence of reported crimes in the City./3/ An increase in robbery, burglary and petty theft incidents would thus probably occur after project completion due to an increase in private property and the number of people on the site. The Police Department does not anticipate a need for additional personnel or equipment to serve the project at this time./4/ However, cumulative hotel development in the area along with the proposed Aspen Group's housing could result in the need for additional personnel and/or equipment to serve the overall area./4/

Appropriate mitigation measures (alarms, adequate lighting at entryways, security personnel, closed-circuit camera systems, and separate secured entrances for residential areas) would reduce the effects of the project on the Police Department.

Schools. The project is not expected to house many families with school-aged children. The San Francisco Unified School District has experienced a steady and substantial decline in student enrollment since 1964 and could thus accommodate any additional students generated by the project./5/

Parks & Recreation. The project would generate a demand for urban recreation facilities. As proposed, the project would provide a Galleria with a landscaped garden containing public seating facilities, and a major health and recreational facility featuring an open-air running track. These proposed recreation facilities would accommodate recreation needs of project residents and employees of the proposed project, and would be required to comply with the residential open-space zoning requirements of the San Francisco Planning Code./6/

Maintenance of Public Facilities. The project would have no direct affect on the maintenance of public facilities.

Power or Natural Gas. The project would result in a net increase in consumption of energy. Street trenching has been completed by P.G. & E. for other construction projects in the project area. The project would require the installation of at least one substreet transformer vault. No gas or electricity supply problems are anticipated./7/

Communications. The proposed project would increase the demand for telephone service in the area. Pacific Telephone anticipates no problem in supplying telephone service to the proposed project./8/ No street trenching work would be required./9/

Water. The project would result in a net increase in water consumption at the site of approximately 236,000 gallons per day (gpd). Current water consumption at the site is approximately 53,000 gpd. The proposed project would consume a total of approximately 288,000 gpd: hotel use demand for water would represent 40% (111,000 gpd) of total water consumption, residential use would consume 50% (149,000 gpd) of the total demand, and office, retail, and recreational uses would consume the remainding 10% (29,000 mgd) of the total demand (see Table 2,). The Water Department does not anticipate any problems to provide service to the proposed project./10/

TABLE 2: ESTIMATED CURRENT AND PROJECTED WATER CONSUMPTION

CURRENT WATER CONSUMPTION

TYPE OF USE	GALLONS PER DAY (gpd)
Residential	47,200
Office	705
Retail	4,690
TOTAL	52,595

PROJECTED WATER CONSUMPTION

TYPE OF USE	GALLONS PER DAY (gpd)	PERCENTAGE OF TOTAL USE*
Hotel (at 100% occupancy)	110,795	38
Office	8,975	3
Retail	16,220	6
Health Club	3,880	1
Residential	95,400	33
Rehabilitated Residential	53,200	18
TOTAL	288,470	99*

* Total does not equal 100% due to rounding.

Source: Environmental Science Associates, Inc.

Wastewater. The project would generate an estimated wastewater flow increase of approximately 223,000 gpd (not including existing residential uses that would be retained)./11/ The site is presently served by 3 ft. by 5 ft. brick sewer mains in all four streets surrounding the proposed project site./11/ The existing sewers would have sufficient capacity to handle the

increased flows./12/ Project generated wastewater flows would be treated at the Southeast Water Pollution Control Plant and would require no expansion of the wastewater collection and treatment system./13/

Solid Waste Collection and Disposal. The project would generate a net increase of approximately 2.5 tons of solid waste per day. Golden Gate Disposal Co., which presently serves the site, anticipates no problem in meeting collection demands and disposal for the proposed project./14/

Cumulative solid waste generation from the three proposed hotel projects for the area would be approximately seven tons of solid waste per day. Golden Gate Disposal Co. anticipates no problems in meeting this collection demand./14/

NOTES - Utilities and Public Services

/1/ Joseph A. Sullivan, Chief, Support Services, San Francisco Fire Department, letter communication, October 1, 1981.

/2/ The rehabilitated structures would be required to conform with the Life Safety Provisions of the San Francisco Building Code; at the present time the residential buildings on the site are not in compliance with Code standards.

/3/ The project site is located in Statistical Reporting Area (RA) 362 and has a total of 1,547 crimes reported for the first six months of 1981 and is ranked third in total number of crimes reported by RA citywide (S.F. Police Department Incidents for which a Police Report was made by District, Plot and Crime January - June 1981.)

/4/ Sergeant Paul Libert, Office of Planning and Research, San Francisco Police Department, personal interview, September 23, 1981.

/5/ San Francisco Unified School District, Proposal for Leasing and Selling Vacant Property, April 29, 1980, p. 28.

/6/ Section 135 of the San Francisco Planning Code requires that each group housing structure in a "C" Planning Use Code district must provide usable open space at a ratio of 1.33 sq. ft. of common usable open space per each sq. ft. of private open space.

/7/ Alfred Williams, Industrial Power Engineer, P.G. & E., telephone communication, September 3, 1981.

/8/ Joseph Andrews, Marketing Manager, Pacific Telephone & Telegraph Co., telephone communication September 19, 1981.

/9/ Don Heikell, Engineer, District 2, Pacific Telephone and Telegraph, telephone communication, October 1, 1981.

/10/ Cy Wentworth, Estimator, Engineering Department, San Francisco Water District, telephone communication August 26, 1981.

/11/ Wastewater generation is assumed to be 95% for water consumption, to allow for water loss caused by evaporation landscaping, irrigation, etc.

/12/ Mervyn Francies, Engineering Associate II, Division of Sewer System Design, San Francisco. Dept. of Public Works, Clean Water Program, telephone communication, August 26, 1981.

/13/ Don Hayashi, Director, Citizens Participation, San Francisco Clean Water Program, September 3, 1981.

/14/ Fiore Garbarino, Treasurer, Golden Gate Disposal Co. telephone communication September 3, 1981.

8. Biology.

	Yes	Maybe	No	N/A	Disc.
a. Would there be a reduction in plant and/or animal habitat or interference with the movement of migratory fish or wildlife species?			X		
b. Would the project affect the existence or habitat of any rare, endangered or unique species located on or near the site?			X		
c. Would the project require removal of mature scenic trees?			X		

The project would not affect any plant or animal life or habitat.

9. Land. (topography, soils, geology) Would proposed project result in or be subject to:

	Yes	Maybe	No	N/A	Disc.
a. Potentially hazardous geologic or soils conditions on or immediately adjoining the site? (slides, subsidence, erosion, and liquefaction)		X			X
b. Grading? (consider height, steepness and visibility of proposed slopes; consider effect of grading on trees and ridge tops)			X		X
c. Generation of substantial spoils during site preparation, grading, dredging or fill?		X			X

No site-specific soils analysis has been conducted yet.

Excavation for the three-level, underground parking garage may require removal of up to 50,000 cubic yards of soil from the site; neighboring building may require special foundation reinforcement/stability measures. Additional soils and geotechnical information will be provided in subsequent environmental documentation for the project.

10. Water. Would the proposed project result in:

		Yes	Maybe	No	N/A	Disc.
a.	Reduction in the quality of surface water?	___	___	X	___	___
b.	Change in runoff or alteration to drainage patterns?	___	___	X	___	___
c.	Change in water use?	X	___	___	___	X
d.	Change in quality of public water supply or in quality or quantity (dewatering) of groundwater?	___	X	___	___	X

Water consumption on the site would increase, however, this increase can be accommodated with no anticipated problems (see p. 17). According to information presented in the Hotel Ramada Final EIR (EE80.171, November 1980), the depth of the groundwater table in the site vicinity is about +10 ft., San Francisco City Datum (SFCD). The site elevation is about +40 ft. SFCD. Dewatering may be required, should project excavation for subterranean parking levels and foundation work extend below groundwater level.

City procedures and regulations have been established to oversee the dewatering process. These are described below. Should dewatering be required, groundwater observation wells would be installed for monitoring the level of the water table and other instruments to monitor potential settlement and subsidence. The City would require a survey to monitor for any lateral movement or settlement of surrounding buildings and adjacent streets during the dewatering. Control lines and benchmarks would be established for monitoring horizontal and vertical movement. Costs for the survey and any necessary repairs to services under the streets would be borne by the contractor. If, in the judgment of City engineers, unacceptable subsidence occurs during the construction, groundwater recharge would be initiated to halt the settlement. Groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this is found necessary by the Industrial Waste Division of the Department of Public Works, to prevent sediment from entering storm drains or sewer lines.

11. Energy/Natural Resources. Would the proposed project result in:

		Yes	Maybe	No	N/A	Disc.
a.	Any change in consumption of energy?	X	___	___	___	X
b.	Substantial increase in demand on existing energy sources?	___	X	___	___	X
c.	An effect on the potential use, extraction, conservation or depletion of a natural resource?	___	X	___	___	X

The project would result in a net increase in energy consumption on the site; however, because of the net increase in total floor area. The project would contribute to cumulative energy consumption by downtown developments that will result in the depletion of nonrenewable energy resources. Energy consumption will be discussed in the subsequent environmental documentation.

12. Hazards. Would the proposed project result in:

	Yes	Maybe	No	N/A	Disc.
a. Increased risk of explosion or release of hazardous substances (e.g., oil, pesticides, chemicals or radiation), in the event of an accident, or cause other dangers to public health and safety?			X		
b. Creation of or exposure to a potential health hazard?			X		
c. Possible interference with an emergency response plan or emergency evacuation plan?			X		X

The project would incorporate all emergency response systems stipulated by the Life Safety Code, including fire alarms, an emergency communication system, an emergency power supply and an on-site emergency water supply. These measures would reduce hazards to building occupants during an earthquake or fire.

13. Cultural. Would the proposed project:

	Yes	Maybe	No	N/A	Disc.
a. Include or affect a historic site, structure or building?			X		X
b. Include or affect a known archaeological resource or an area of archaeological resource potential?		X			
c. Cause a physical change affecting unique ethnic or cultural values?			X		X

Table 3 shows the eight buildings on the project block which are listed on the San Francisco Department of City Planning's (DCP) Architectural Survey. The survey of Architecturally Significant Buildings completed by the DCP in 1976, notes architectural merit of the top 6% of buildings in San Francisco on a scale of 0 to 5, with 5 being the highest rating. Three buildings, two rated "1" and one rated "2," would be demolished for project construction (see Table 3). No buildings on the site are listed on the Heritage Survey or the City Planning Commission's list of architecturally and/or historically important buildings.

The Hilton Hotel and Tower are opposite the site to the north on Ellis St. The Hilton Tower is rated "2" on the San Francisco Department of City Planning's Architectural Survey (SF DCP Survey). Two buildings on Mason St. opposite the site, the 7-story Olympic Hotel and a 9-story apartment

building are rated "1" on the SF DCP Survey. The Bristol Hotel, diagonally across from the site, at the corner of Mason and Eddy Sts., is rated "0". The Hotel Ritz (200-216 Eddy St.) is rated "1" and 225 Taylor St. is rated "0". Diagonally across from the project site, at the corner of Ellis and Taylor Sts., is the Glide Memorial Church, rated "2".

TABLE 3: ARCHITECTURAL RESOURCES ON PROJECT BLOCK: AB 331

Lot	Status of Building	Address	DCP Rating*
1A	To Be Demolished	229 Ellis St.	1
1	Not Part of Site	167 Mason St. (Diamond Hotel)	1
6	Rehab/Retained	111 Mason St. (Mason Hotel)	2
8	Rehab./Retained	144 Eddy St. (Empress Hotel)	0
9	Not Part of Site	1566-66 Eddy St. (William Penn Hotel)	1
12	Rehab./Retained	240-48 Taylor St.	0
15	To Be Demolished	275 Ellis St.	2
16	To Be Demolished	235-265 Ellis St.	1

* Department of City Planning rating on a scale with a low of "0" and a high of "5"

SOURCE: Environmental Science Associates, Inc.

There are no known buried ships or other archaeological resources are on the site./1/

The project is located within the Tenderloin neighborhood where there is a large elderly population and growing Southeast Asian population concentrated in the area./2/ Preservation and rehabilitation of about 265 low-income apartment and residential hotel units on the project block for existing residents would help preserve the ethnic and cultural identities of these two communities.

NOTES - Cultural Resources

/1/ Source of information: Schlocker, J. 1974, Geology of the San Francisco North Quadrangle, California, Professional Paper 782, USGS, Washington, D.C.

/2/ The concentration of a particular ethnic and/or socio-economic group in an area establishes a sense of community for its residents. Cultural traditions can be maintained and a variety of specialized goods and services can be provided. Dispersion of these groups could result in the eventual loss of community identity.

C. MITIGATION MEASURES:

	Yes	No	Disc.
Are mitigation measures included in the project?	X		X
Are other mitigation measures available?	X		

Mitigation Measures proposed as part of the project include the following:

LAND USE

- The sponsor would temporarily relocate residents of the retained, rehabilitated residential hotels and apartment buildings to presently vacant units on the block during rehabilitation of each building.

- The project sponsor is seeking a new major food store to be included in the project to serve the convenience shopping needs of project and neighborhood residents.

URBAN DESIGN

- The project features pedestrian amenities, including street trees and sidewalk plantings, multiple entrances, particularly to the three-level galleria, and ground-floor commercial activities.

- The project would provide open space uses which are encouraged in Guiding Downtown Development, such as through-block pedestrian ways and landscaped Galleria with public seating and food service.

POPULATION/EMPLOYMENT/HOUSING

- The project would provide new housing to help meet the demand for housing generated by downtown business expansion.

- Approximately 90 new apartments would be made affordable to moderate-income residents, should government subsidies be available.

TRANSPORTATION/CIRCULATION

- The project sponsor would encourage transit use through the sale on-site of BART and MUNI passes to employees and retail shoppers at the project site, and by encouraging employee carpool and vanpool systems in cooperation with RIDES for Bay Area commuters.

- Secure bicycle parking facilities would be provided, to encourage the use of bicycles by project employees, residents and office messengers.

- During the construction period, project truck movement would be limited to the hours between 9 a.m. and 4 p.m. to minimize peak-hour traffic conflicts.

- The project sponsor would contribute to an established Downtown transit assessment district, as appropriate with project development.

NOISE

- Prior to construction, the project sponsor would meet with the management of the existing Hilton Hotel and Tower, proposed Holiday Inn, and Hotel Ramada (if these two hotels are occupied) to negotiate arrangements for identified hotel "daytime sleepers" to be assigned hotel rooms located farthest from the construction site and noise sources. Additional measures would be arranged as necessary and feasible for hotel and adjacent residential and commercial uses.

- Should pile-driving be necessary, it would be done in the shortest time period possible and would be limited to hours resulting in the least disturbance to neighborhood uses. Predrilling of piles would be practiced to the maximum extent feasible to reduce total hours of required impact pile-driving.

AIR QUALITY/CLIMATE

- During excavation, unpaved demolition and construction areas would be wetted to reduce dust emissions; two wettings per day with complete coverage would reduce particulate emissions (dust) by about 50%.

- The general contractor would maintain and operate construction equipment in such a way as to minimize exhaust emissions. During construction, trucks in loading and unloading queues would turn off their engines to reduce vehicular emissions.

UTILITIES AND PUBLIC SERVICES

- To reduce the demand on police protection services, the project would incorporate internal security measures such as a 24-hour staffed guard station in the lobby area of Tower Two and office portion of Tower Three; closed circuit television cameras and internal security personnel; well-lighted entries; alarm systems; separate security elevator and locked entrances with call-telephones for the residential portion of the building; and computerized office and residential entrances accessible only by pre-programmed magnetic keys.

- The project would incorporate low-flow faucet and toilet fixtures to reduce water consumption and wastewater.

- The building would be equipped with a trash compactor to reduce the volume of solid waste requiring storage and transport. Separate storage facilities for recyclable waste material would be provided for office, hotel and residential uses.

LAND (Topography, Soils, Geology)

- A detailed foundation and structural design study would be conducted for the project by a California licensed structural engineer and a geotechnical consultant. The project sponsor would follow the recommendations of these studies during the final design and construction of the project.

- The project sponsor would post a surety bond, if required by the San Francisco Department of Public Works, before issuance of a permit to excavate. Such a bond would protect the City against damages to sidewalks, streets and utilities.

- The project sponsor would require the project contractor and sub-contractors to obtain a Faithful Performance and Payment Bond, if proper financial capability is not evident, and to be responsible for any damage to existing buildings which might result from excavation. This bond would protect the project sponsor and owners of adjacent properties if any damage to these properties were to result from construction activities.

ENERGY

- Stairways, instead of escalators, would provide access to the upper two levels of the Galleria, thereby minimizing energy use.

- Wherever possible, office suites would be equipped with individual light switches, time clock operation, and fluorescent lights to conserve electrical energy. A centralized management computer system would monitor off-hour (evening and weekend) heating and air-conditioning. Tenants would be charged for off-hour heating and air-conditioning.

- The HVAC system would be equipped with an economizer cycle to use outside air for cooling, as feasible.

- Residential and office condominium units would have individually metered gas (if applicable) and electric services.

- Residential, office and hotel water heating systems would be insulated to minimize wastewater and waste heat. In residential units, water heaters would be placed as close as possible to the source of use (sinks, showers, dishwashers) to minimize wastewater and waste heat.

CULTURAL

- The project sponsor would allow existing residents of the five apartments and residential hotel buildings on the site to continue living on the project site during rehabilitation of their buildings and after project completion; this would preserve the ethnic and cultural identity of residents on the project site.

- Should evidence of cultural or historic artifacts of significance be found during project excavation, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified. The project sponsor would select an archaeologist to help the Office of Environmental Review determine the significance of the find and whether feasible measures, including appropriate security measures, could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend specific mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservaton. Excavation or construction which might damage the discovered cultural resources would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate.

D. ALTERNATIVES:	Yes	No	Disc.
Were other alternatives considered:	X		X

Alternatives to the proposed project include:

- The no-project alternative, as required by the California Environmental Quality Act (CEQA).

- A project with a Basic FAR of 8:1 plus additional development (floor area) bonuses allowed for the provision of housing as specified in Guiding Downtown Development.

- An alternative complying with a RC-4 zoning classification and maximum height of 80 ft. which is recommended by the North of Market Planning Coalition rezoning proposal for the "Core Tenderloin Special Use District."

- An alternative complying to the Tenderloin Special Use District proposed by the Department of City Planning.

Additional alternatives will be identified and considered in subsequent environmental evaluation of the project.

E. MANDATORY FINDINGS OF SIGNIFICANCE:

	Yes	No	Disc.
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal, or eliminate important examples of the major periods of California history or prehistory?	___	X	___
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	___	X	___
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable?	X	___	___
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___
5. Is there a serious public controversy concerning the possible environmental effect of the project?	___	X	___

APPENDIX B: WIND TUNNEL STUDY FOR AB 331

Prepared for

Environmental Science Associates, Inc.
1390 Market Street
San Francisco, CA 94102

PROJECT: Block 331 Mixed Use Development

INITIAL WIND-TUNNEL STUDY

Prepared by

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Note: Raw data and computer inputs and outputs have been deleted from this study.

I. MODEL AND WIND-TUNNEL FACILITIES

Model

A 1/50 scaled model of the downtown San Francisco area surrounding the proposed building site for several blocks in all directions was provided by ESA, Inc. The model was capable of having 3 configurations (the existing, proposed, and alternative settings), each available for separate wind-tunnel testing.

Wind-Tunnel Facilities

An environmental wind tunnel was built for testing natural atmospheric boundary layer flows past surface objects such as buildings and other structures. The tunnel has an overall length of 22 meters (m) (72 ft.), a test section of 1.22 m (4 ft.) wide by 1.83 m (6 ft.) high, and an adjustable false ceiling. Wind speeds within the tunnel can be varied from 1 to 4 meters per second (m/s) or 2.2 to 8.9 miles per hour (mph). Details of the wind-tunnel facility are shown in Figures 1, 2, and 3.

The atmospheric boundary layer flow over the downtown area was simulated by an upwind network of turbulence generators. The wind tunnel's false ceiling was adjusted to provide a zero-pressure-gradient downstream flow. The adjustment of the flow to zero-pressure-gradient flow is known to properly model atmospheric boundary layers near the surface of the earth. The long flow development length allows a naturally turbulent boundary layer to develop and properly models the full-scale flow.

II. TESTING PROCEDURE

The wind study was divided into 2 parts: flow visualization and wind-speed measurements. The flow visualization observations were performed by injecting a continuous stream of smoke at various near-surface locations. The subsequent motion of the smoke was recorded, and prevailing wind directions were determined. Wind-speed measurements were made at 25 surface locations using a hot-wire anemometer, an instrument that directly relates rates of heat transfer by electronic signals. The hot-wire signals are proportional to the magnitude and steadiness of the wind. Both the mean wind speeds and corresponding turbulence intensities were measured. Thus, high wind speeds and gustiness (large variable changes in wind speeds over short changes in time) could be detected. Hot-wire measurements made close to the surface have an inherent uncertainty of 5% of the true values.

Calibration measurements were made before and after each series of hot-wire experiments. The calibration was accomplished by means of a Thermo-System Incorporated (TSI) Model #1126 hot-wire anemometer calibrator especially designed for low-wind speeds. The calibration is accurate to 1%. The flow above the model was adjusted to nearly the same wind speed of 4.42 m/s (14.5 ft/sec or 9.89 mph) for all experiments. The ratio of near-surface speed to freestream wind speed was calculated from the hot-wire measurements and is presented on the attached figures.

Experiments were performed for 3 prevailing wind directions (westerly, northwesterly, and southwesterly) for the existing, proposed, and alternative settings. These wind conditions are the most common in San Francisco, and are therefore the most representative for evaluation purposes. All hot-wire measurements were taken at the same series of surface points around the building site for all 3 wind directions and the 3 building settings.

III. TEST RESULTS AND DISCUSSION

The measured wind speeds are expressed as normalized percentage of the freestream wind-tunnel speed where 1.0 represents a wind speed equal to 100% of the freestream value. The numerical ratios (called wind speed ratios) displayed on the figures can be approximately interpreted by using the following scale presented in Table I. The assessment of wind impact on the surrounding settings is preliminary and should be construed only as an estimate of the projected actual wind environment. The scale presented in Table I is subjective.

Intensity of Wind Speed Ratio	Wind Speed Ratio or Normalized Percentage of Freestream Speed
Low	0.00 - 0.19
Moderately low	0.20 - 0.29
Moderate	0.30 - 0.49
Moderately high	0.50 - 0.69
High	0.70 - 1.00
Very high	over 1.00

Table I. Relative Intensity of Surface Winds

It should be noted that the plotted values are not actual wind speeds, but ratios. Thus, a point having "very high" wind speed ratio could still experience light winds on a near-calm day. Likewise, a point found to have "low" wind speed ratio could experience relatively high winds on a windy day.

West Wind

(i) Existing setting. The near-surface wind speeds at the existing setting are found to be low (wind speed ratio of less than 0.19) or moderately low (wind speed ratio between 0.20 and 0.29) at most measured locations. Two exceptions are moderate 0.31 wind speed ratios at the intersection of Ellis St. and Fifth St. North and on Ellis St. between Taylor and Mason Sts. There is a rapid acceleration-deceleration of winds represented by a change of wind speed ratios from 0.14 to 0.31 to 0.14 along Ellis St. between Taylor and Mason Sts. Wind speed ratios at the proposed park (Assessor's Block 332), Glide Church, the Airporter Bus Terminal and Hallidie Plaza are low and moderately low.

(ii) Impact of project. The presence of the proposed setting (known as Alternative I) would create the following changes in the wind environment: (a) There would be an effective 49% increase in wind speeds occurring on Ellis St. between Taylor and Mason Sts.; however, the resulting wind speed ratios would still remain moderately low. The mid-block acceleration-deceleration of winds would be worsened. Wind speed ratios at the Ellis St. - Mason St. intersection would increase from low to moderately low.

(b) There would be a 25% decrease in wind speed ratios occurring along Taylor St. between Ellis and Eddy Sts., from moderately low to low. (c) There would be an effective 23% increase in wind speeds at the Eddy-Taylor Sts. intersection, although the resulting wind speed ratios would still be low and moderately low. (d) There would be a vertical vortex of moderately low winds formed in the courtyard of the proposed setting. (e) There would be a 13% decrease in wind speeds at the Ellis St. - Fifth St. North intersection, thus reducing the resulting wind speed ratio from moderate to moderately low. (f) There would be a 25% decrease in wind speeds at Glide Church, thus reducing the resulting wind speed ratio from moderately low to low. (g) The wind speed ratios at the proposed park (Assessor's Block 332), the Airporter Bus Terminal and Hallidie Plaza would remain low.

The alternative setting (known as Alternative 2) would result in a wind environment similar to that of the proposed setting except for the following changes: (a) There would be an effective 31% increase in wind speeds on Eddy St. between Taylor and Mason Sts., thus resulting in an increase from moderately low to moderate wind speed ratios at the Eddy-Taylor St. intersection. (b) There would be an effective 7% decrease in wind speeds along Ellis St. between Taylor and Mason Sts.; however, there would be a worsening of the rapid accelerating-decelerating winds on Ellis St. and the Ellis-Mason Sts. intersection would have a worsening of the wind speed ratios from moderately low to moderate. (c) The wind speed ratio at Glide Church would increase 33%, from low to moderately low. (d) There would be a 15% decrease in wind speed at the Ellis St. - Fifth St. North intersection; however, the wind speed ratio there would remain moderately low.

Northwest Wind

(i) Existing setting. The near-surface wind speed ratios at the existing setting are low and moderately low at all measured locations except for a moderate (0.37) ratio on Taylor St. between Ellis and Eddy Sts. There are consistent moderately low wind speed ratios on Ellis St. between Taylor and Mason Sts. Low wind speed ratios are found at the proposed park (Assessor's Block 332), the Airporter Bus Terminal and Hallidie Plaza.

(ii) Impact of project. The presence of the proposed setting would create the following changes in the wind environment: (a) There would be an effective 102% increase in wind speeds at the Eddy-Taylor Sts. intersection, thus increasing the resultant wind speed ratios from low - moderately low to moderately low - moderate. (b) There would be a 41% decrease in wind speed on Taylor St. between Ellis and Eddy Sts. (c) There would be easterly low wind speed ratios on Eddy St. between Taylor and Mason Sts., whereas the existing setting winds blow out of the west, with low wind speed ratios. There would be a vertical vortex in the courtyard of the proposed setting with low wind speed ratios. (d) There would be an effective 29% decrease in wind speeds at the Ellis-Taylor Sts. intersection, although the resultant wind speed ratios would still be moderately low. (e) Glide Church would experience a 19% decrease in wind speed ratios; they would remain moderately low. (f) The wind speed ratios at the proposed park (Assessor's Block 332), the Airporter Bus Terminal and Hallidie Plaza would remain low.

The alternative setting would result in a wind environment similar to that of the proposed setting except that there would be no vertical vortex in the courtyard. There would, however, still be easterly winds on Eddy St. between Taylor and Mason Sts.

Southwest Wind

(i) Existing setting. The near-surface wind speed ratios at the existing setting are low and moderately low at all measured locations except for moderate winds at the Ellis-Mason Sts. and Ellis St. - Fifth St. North intersections. There is a vertical vortex

on the open lot (northeast corner of the Eddy-Taylor Sts. intersection) of the existing setting. Hallidie Plaza has a moderately low wind. There are low wind speed ratios at the Glide Church, the proposed park (Assessor's Block 332), and the Airporter Bus Terminal.

(ii) Impact of project. The presence of the proposed setting would create the following changes in the wind environment: (a) There would be an effective 67% increase in wind speeds on Eddy St. between Taylor and Mason Sts., thus increasing the resultant wind speed ratios from moderately low to moderate. (b) There would be an effective 52% increase in wind speeds on Ellis St. between Taylor and Mason Sts., thus increasing the resultant wind speed ratios from moderately low to moderate. (c) There would be a vertical vortex with moderately low wind speed ratios in the courtyard of the proposed setting. (d) The vertical vortex on the open lot of the existing setting would disappear. (e) There would be a 16% decrease in wind speed at the Ellis St. - Fifth St. North intersection.

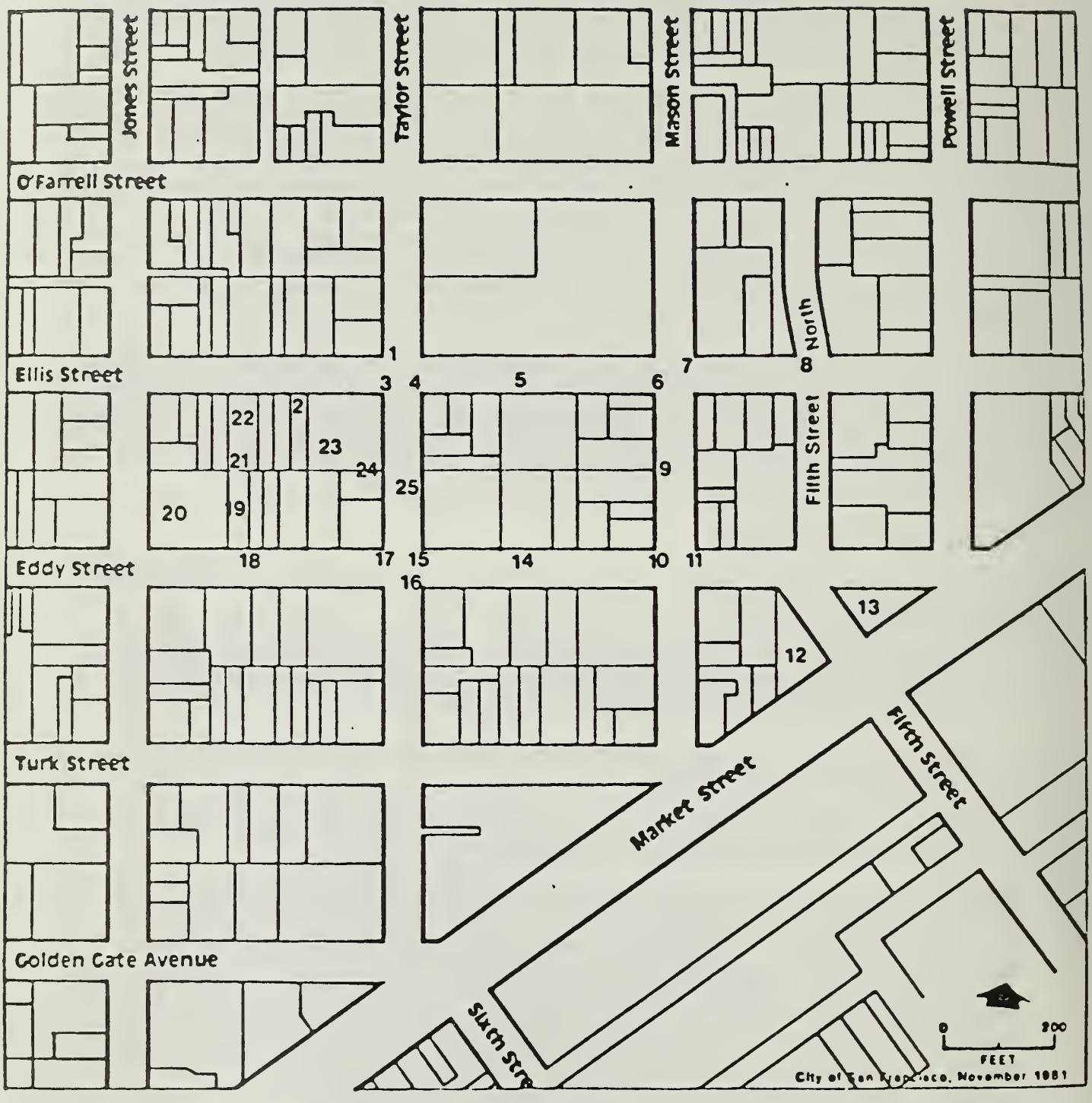
The alternative setting would result in a wind environment similar to that of the proposed setting, except for the following changes: (a) There would be an effective 25% decrease in the wind speed ratios on Ellis St. between Taylor and Mason Sts. (b) There would be an effective 19% decrease in wind speeds on Eddy St. between Taylor and Mason Sts., thus decreasing the resultant wind speed ratios from moderate to moderately low at the Eddy-Mason Sts. intersection.

IV. MITIGATION MEASURES

The most undesirable changes in the wind environment due to the presence of the proposed buildings would be:

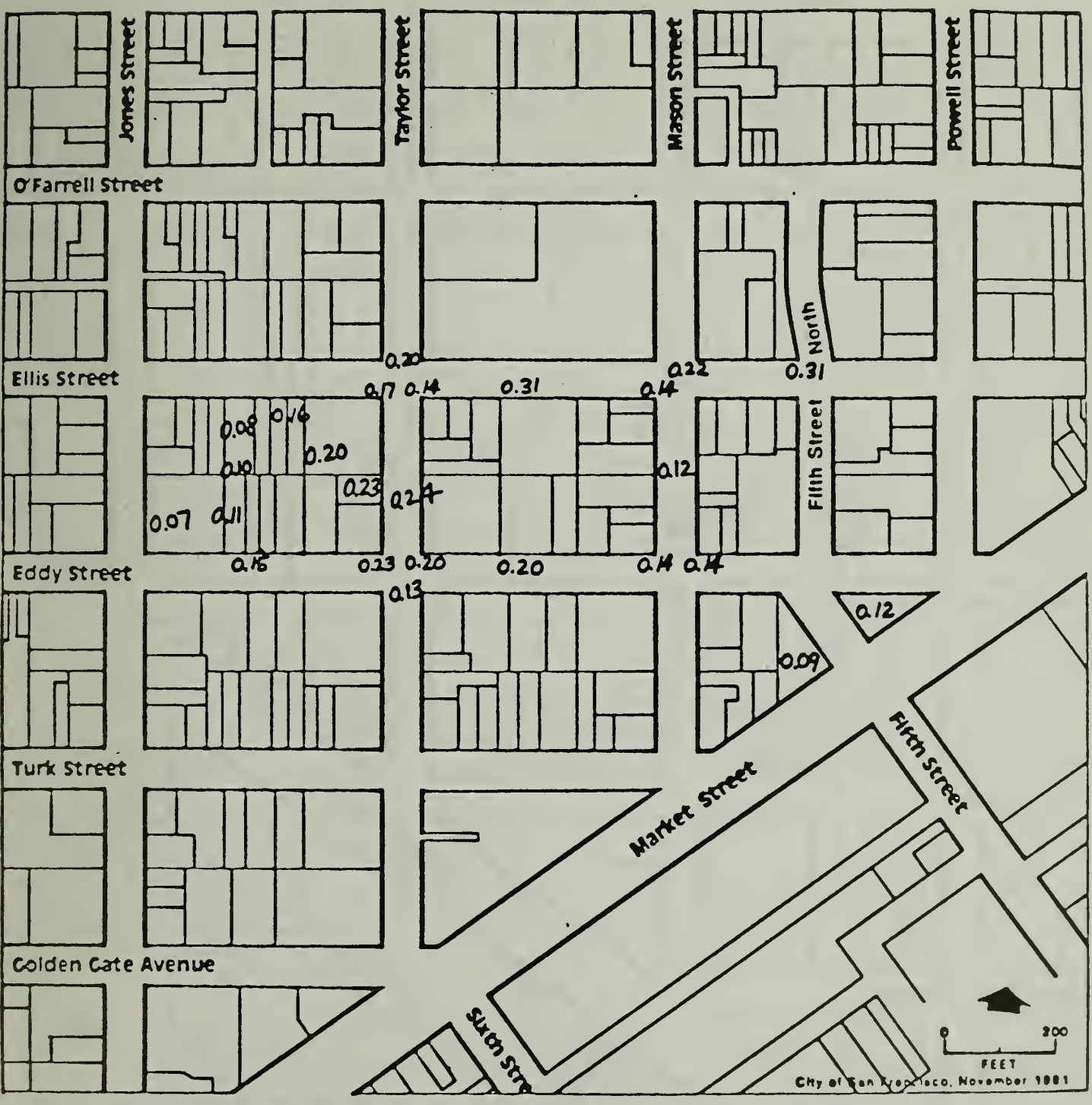
> for west winds: an effective 49% increase of wind speed ratios on Ellis St., a 33% increase of wind speed ratios on Taylor St., and a 23% increase of wind speed ratios at the Eddy-Taylor Sts. intersection;
>
> for northwest winds: an effective 102% increase for wind speed ratios at the Eddy-Taylor Sts. intersection;
>
> and for southwest winds: an effective 67% increase of wind speed ratios on Eddy St. and a 52% increase of wind speed ratios on Ellis St.

Hence, winds adjacent to the proposed buildings along Ellis, Eddy and Taylor Sts. and at the Eddy-Taylor Sts. intersection would create the most undesirable changes in the wind environment. Mitigation measures that should substantially reduce pedestrian discomfort along these streets and at the Eddy-Taylor Sts. intersection would be the construction of small structures that could function as windbreaks along the sidewalks. They could include, but are not limited to, mature street trees, kiosks for newspapers, flower vendors, telephone booths, or low (10-15 ft. high) streetside planters along Ellis, Eddy and Taylor Sts. on the block of the proposed buildings. The courtyard area could be enclosed, or at least some type of barrier could be constructed around the perimeter such as 5 to 10 feet of planters or solid rigid fence. This would reduce the moderate southwesterly wind speed ratios and help eliminate the vortex swirling of winds inside the courtyard.



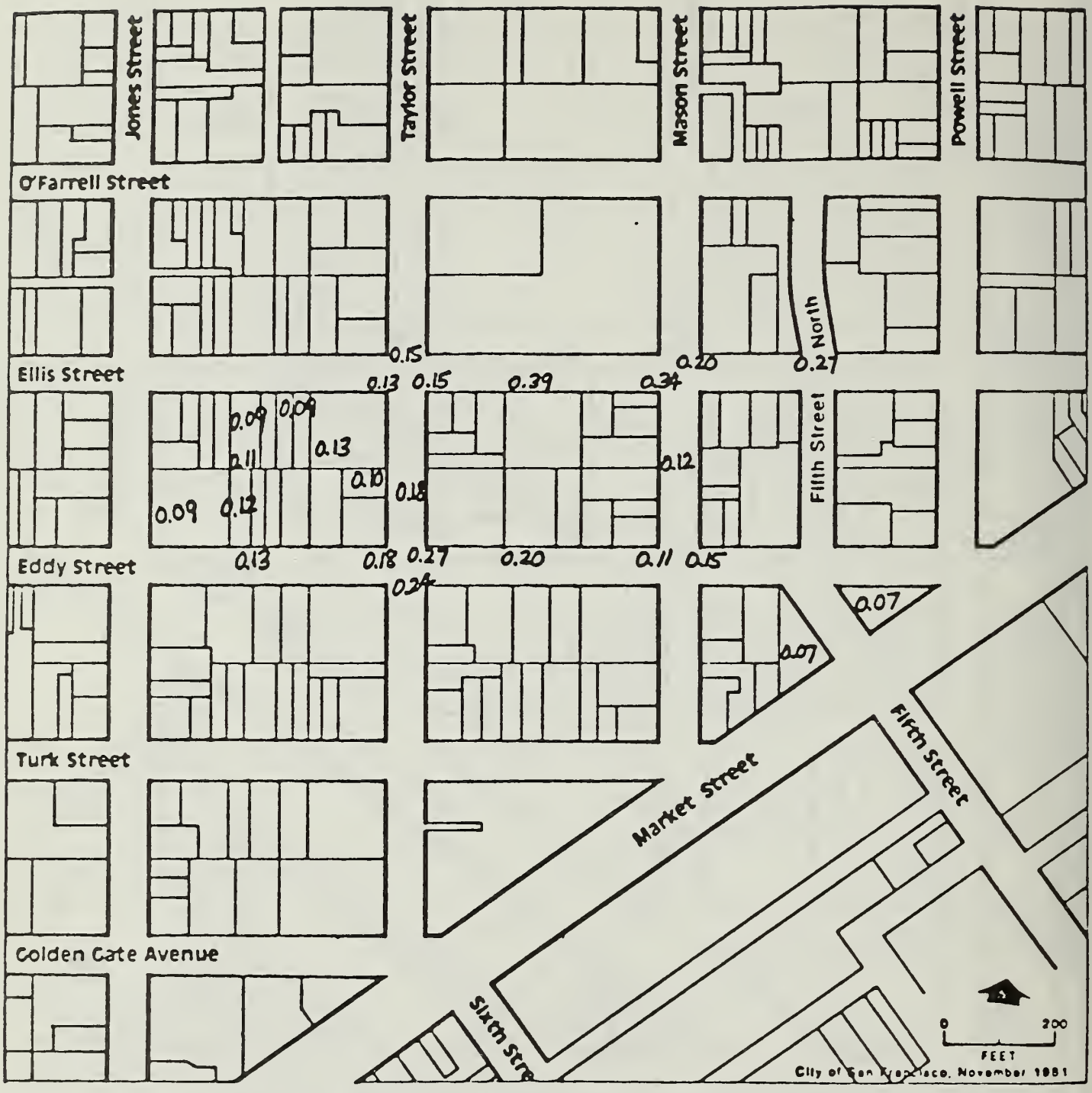
Legend LOCATION OF NEAR-SURFACE POSITION FOR WIND-SPEED MEASUREMENTS.

SOURCE: Environmental Science Associates, Inc.



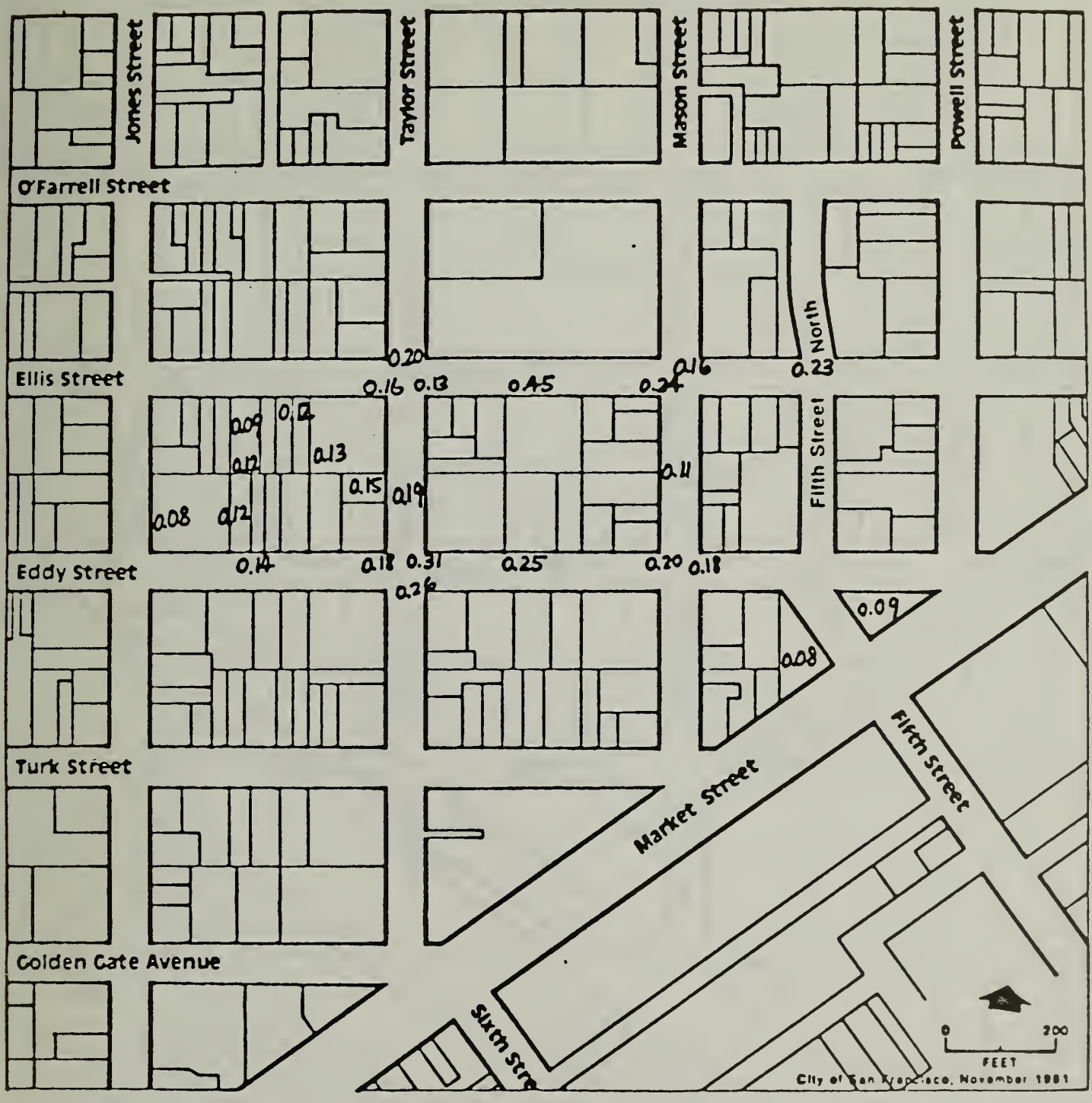
Legend WIND SPEED RATIOS FOR WESTERLY WINDS - EXISTING SETTING.

SOURCE. Environmental Science Associates, Inc.



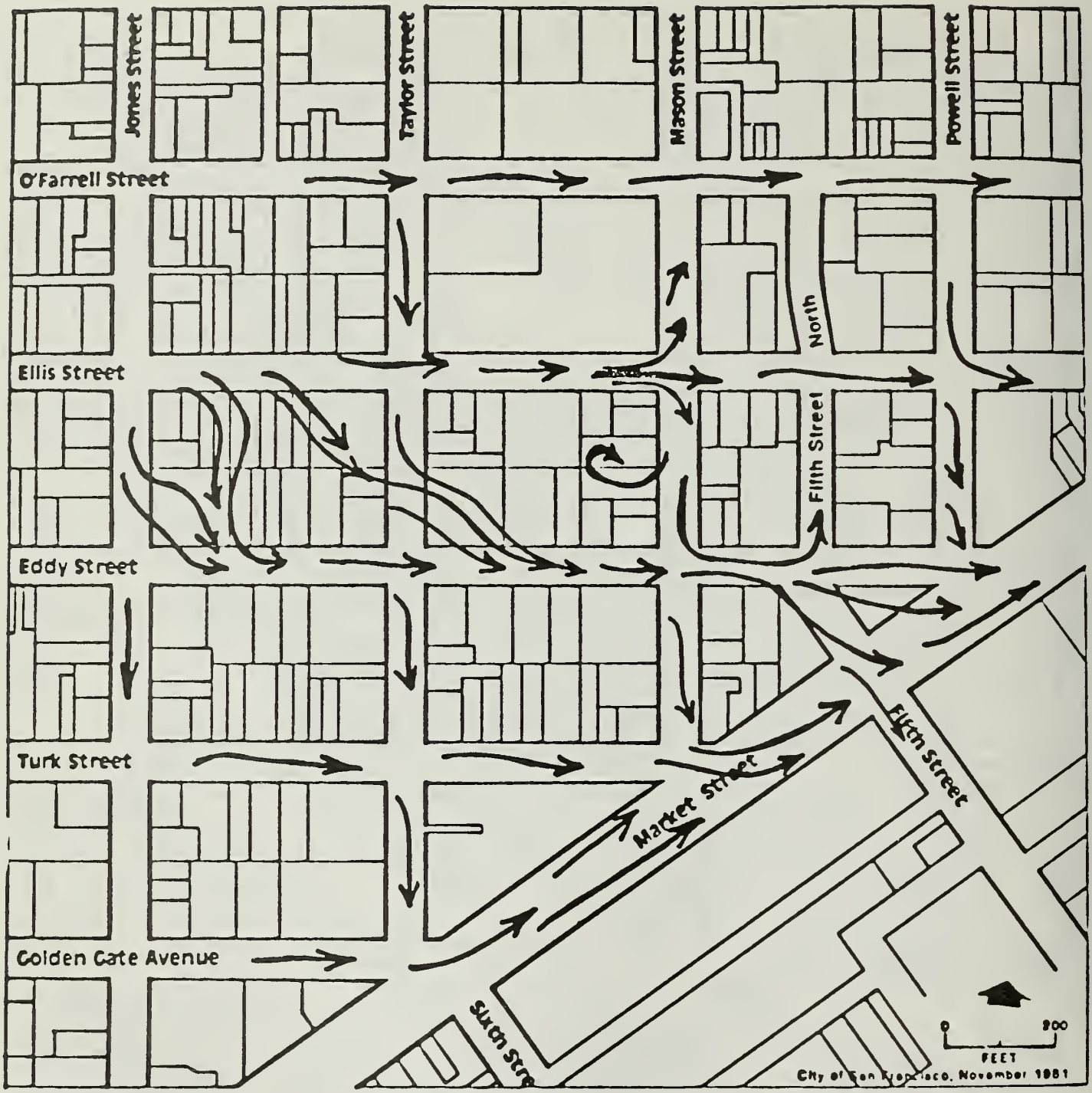
Legend WIND SPEED RATIOS FOR WESTERLY WINDS - PROPOSED SETTING.

SOURCE. Environmental Science Associates, Inc.



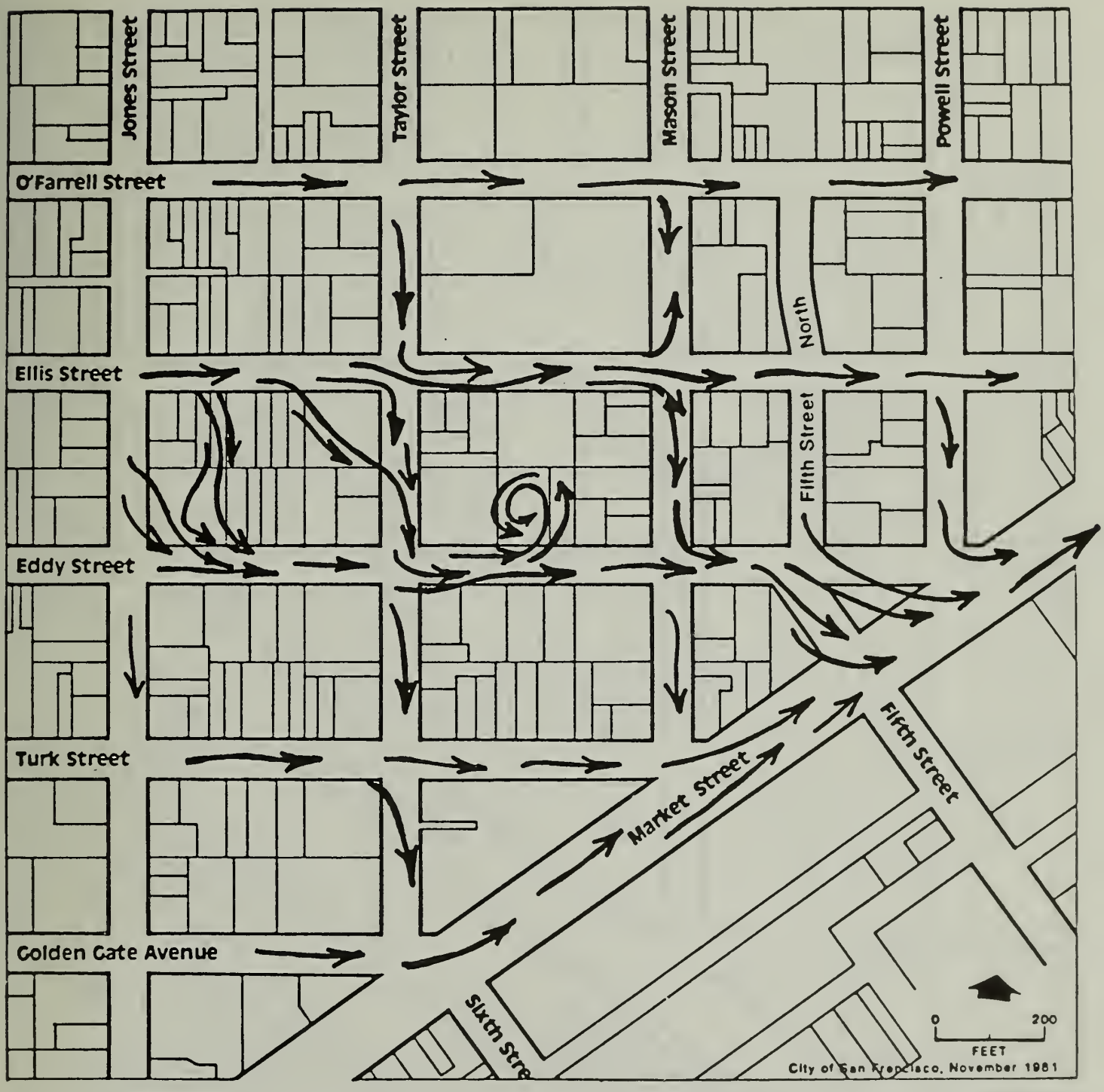
Legend WIND SPEED RATIOS FOR WESTERLY WINDS - ALTERNATIVE SETTING.

SOURCE: Environmental Science Associates, Inc.



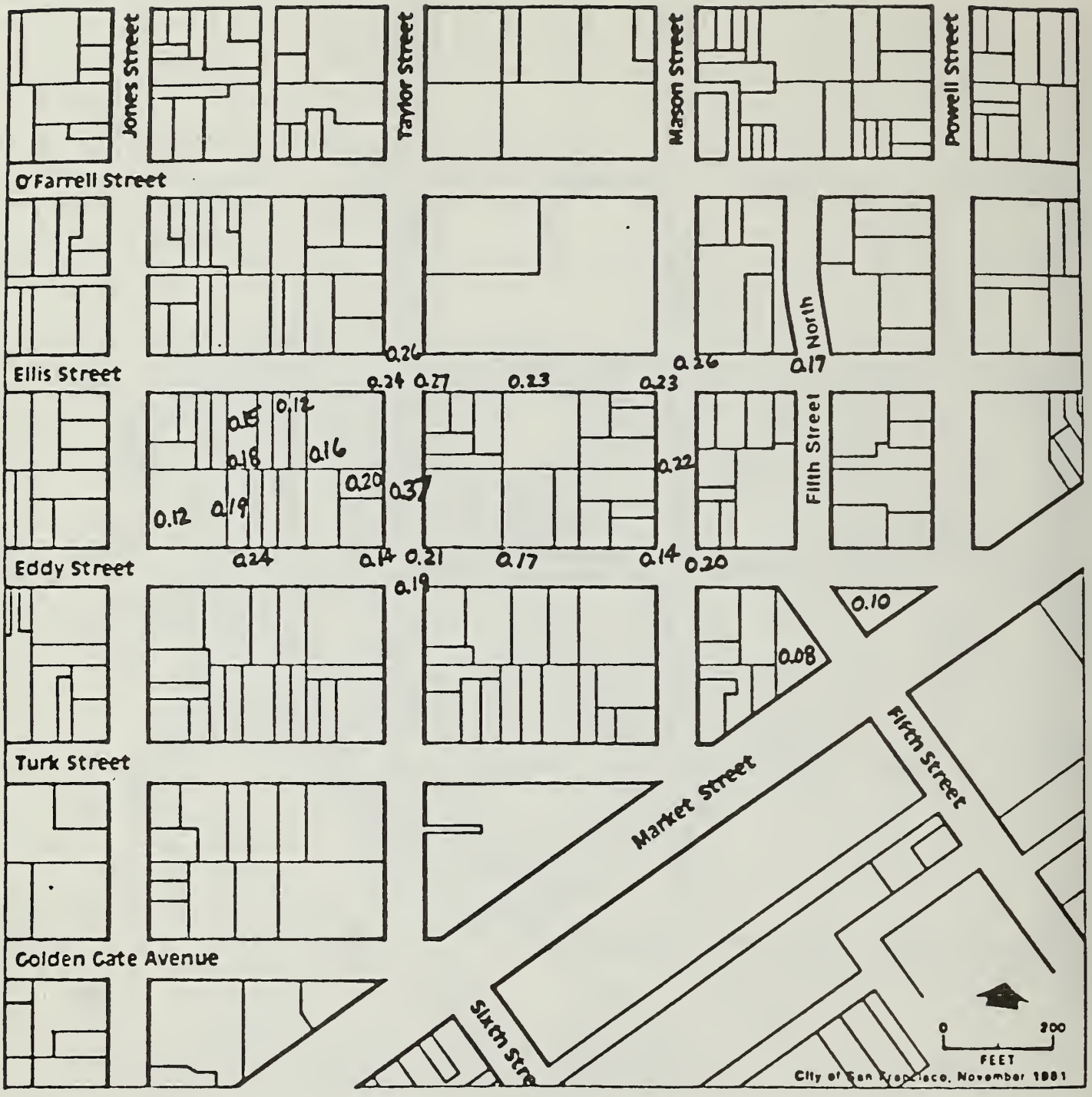
Legend NEAR-SURFACE WIND DIRECTIONS FOR WESTERLY WINDS - EXISTING SETTING.

SOURCE. Environmental Science Associates, Inc.



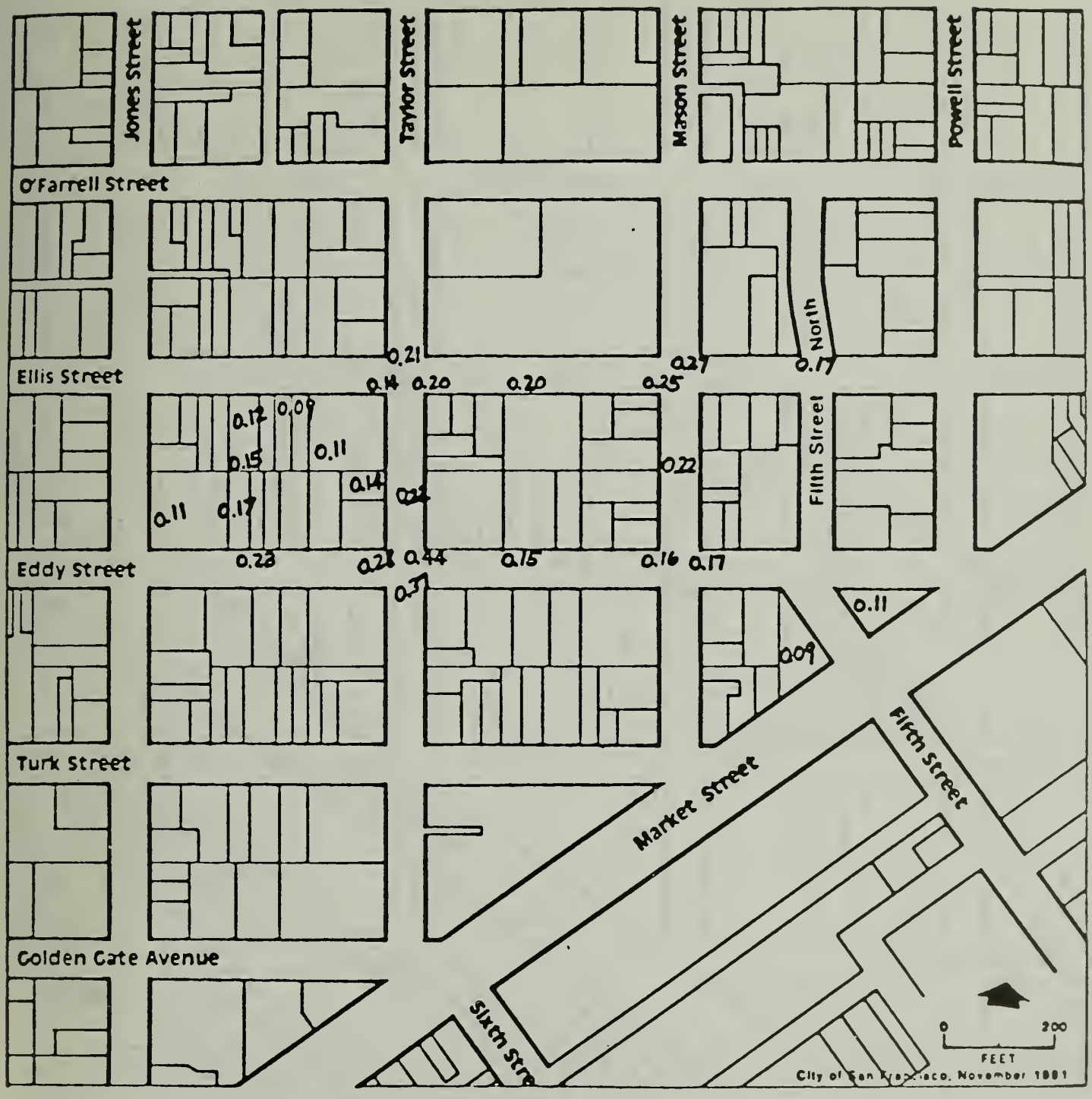
Legend NEAR SURFACE WIND DIRECTIONS FOR WESTERLY WINDS - PROPOSED AND ALTERNATIVE SETTINGS.

SOURCE: Environmental Science Associates, Inc.



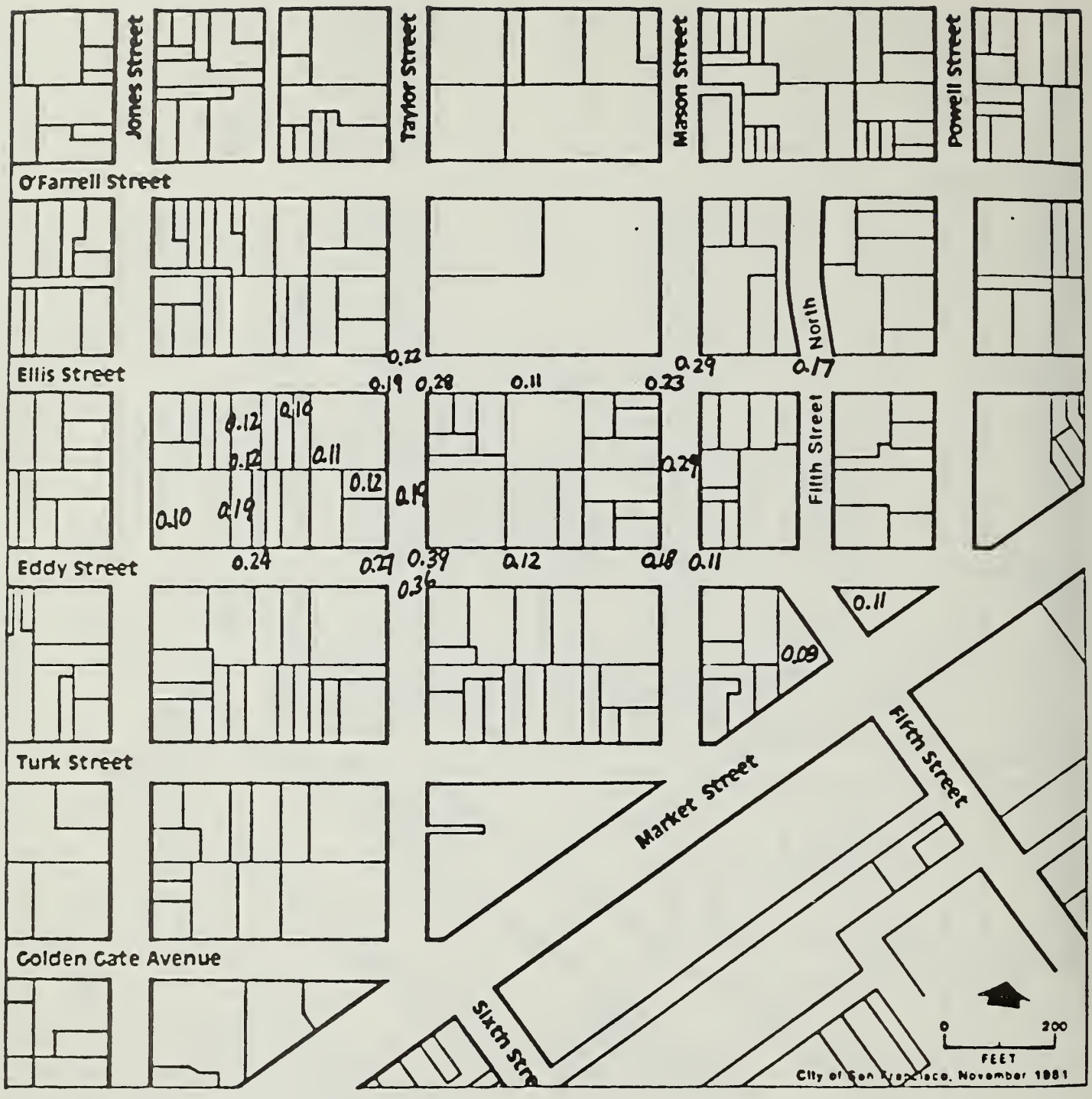
Legend WIND SPEED RATIOS FOR NORTHWESTERLY WINDS - EXISTING SETTING.

SOURCE. Environmental Science Associates, Inc.



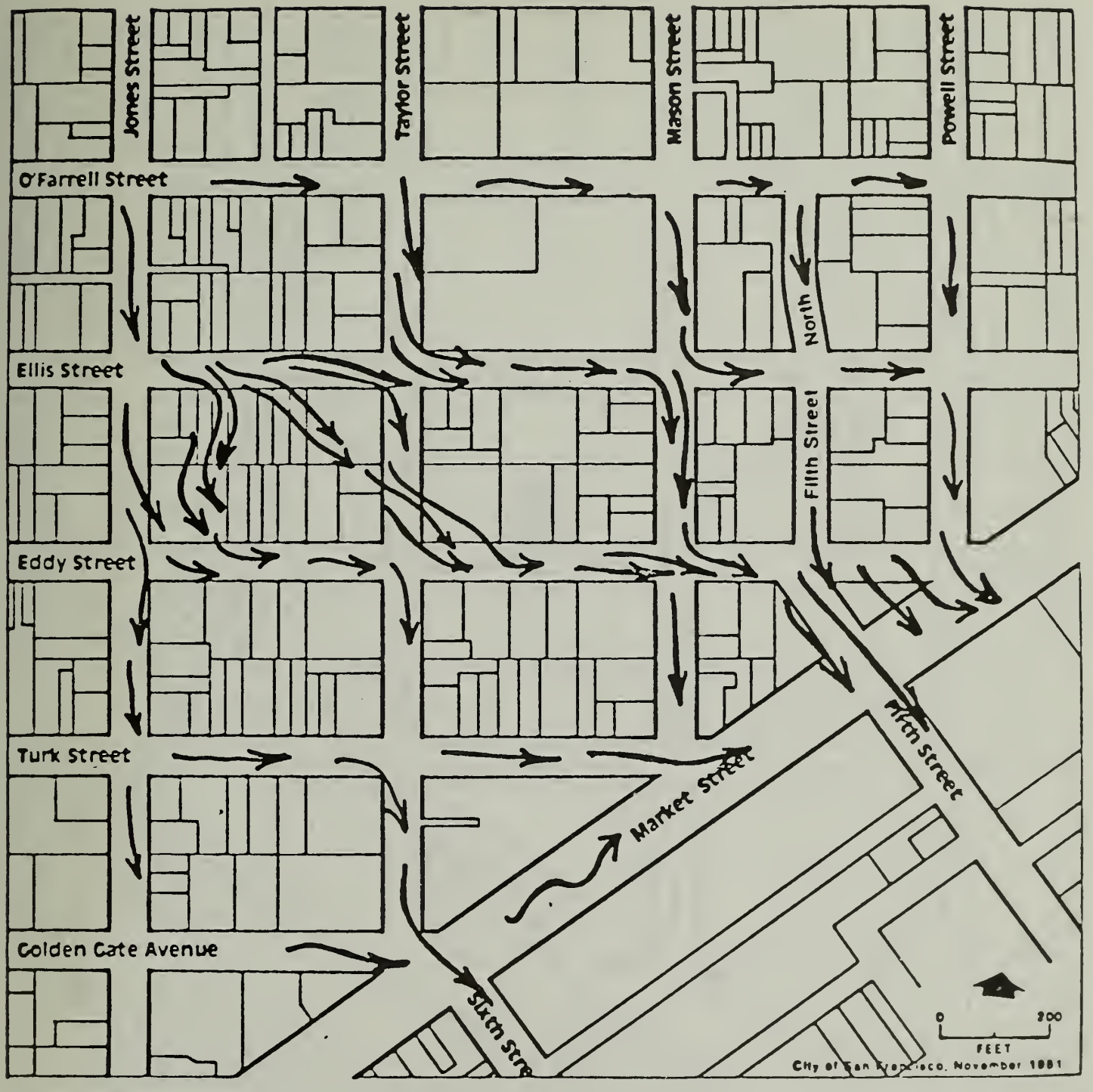
Legend WIND SPEED RATIOS FOR NORTHWESTERLY WINDS - PROPOSED SETTING.

SOURCE. Environmental Science Associates, Inc.



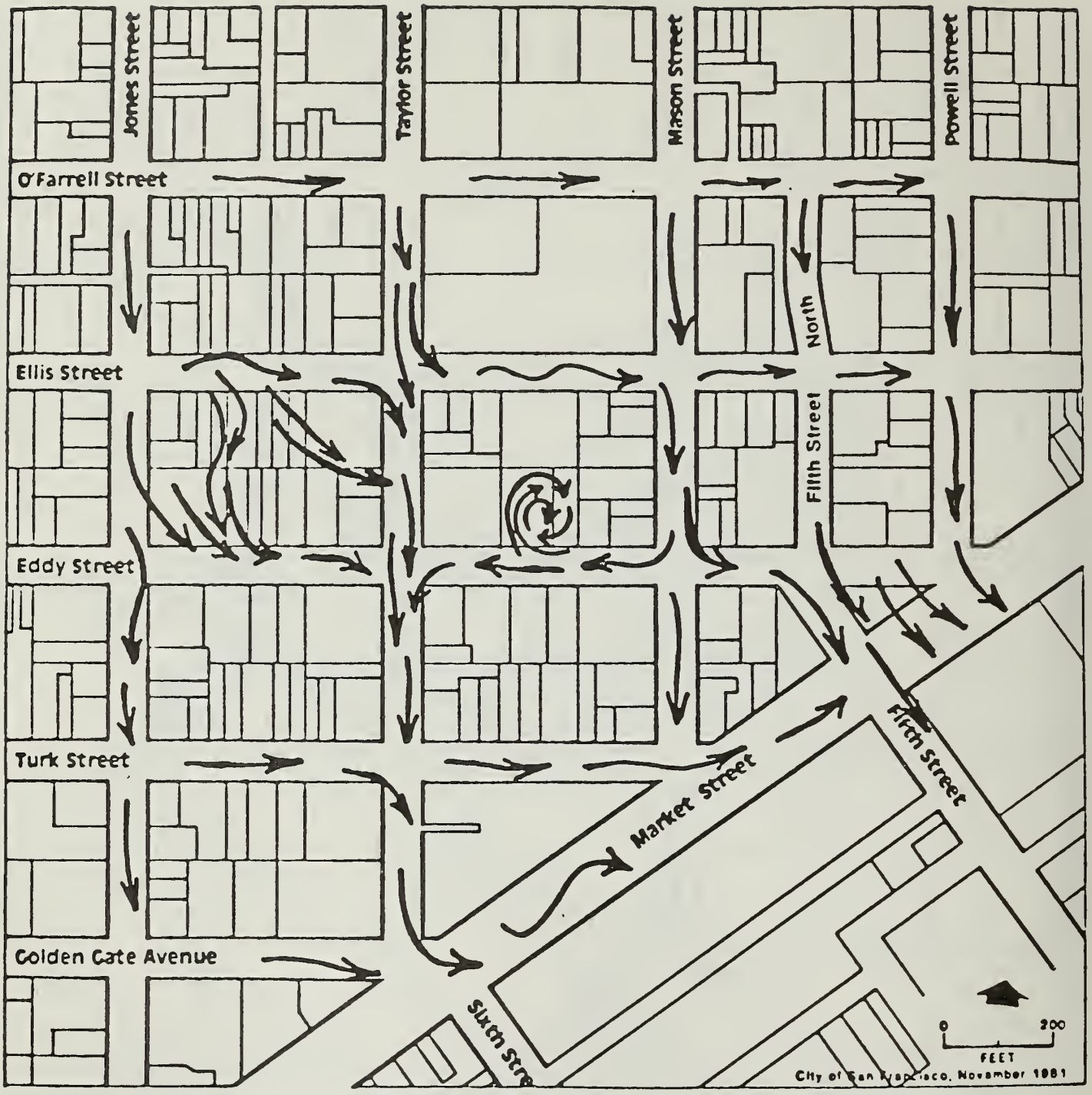
Legend WIND SPEED RATIOS FOR NORTHWESTERLY WINDS - ALTERNATIVE SETTING.

SOURCE. Environmental Science Associates, Inc.



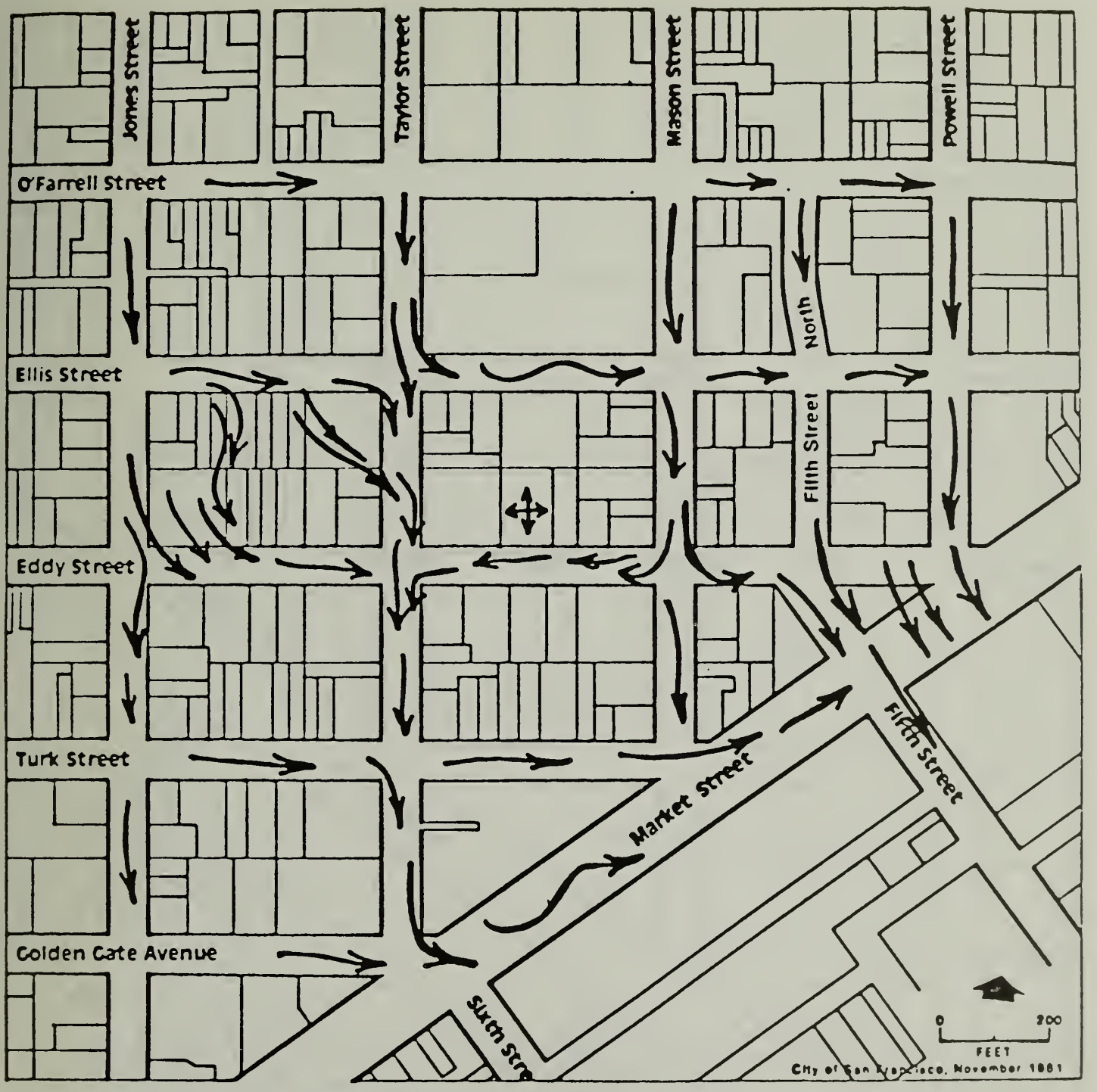
Legend NEAR-SURFACE WIND DIRECTIONS FOR NORTHWESTERLY WINDS - EXISTING SETTING.

SOURCE. Environmental Science Associates, Inc.



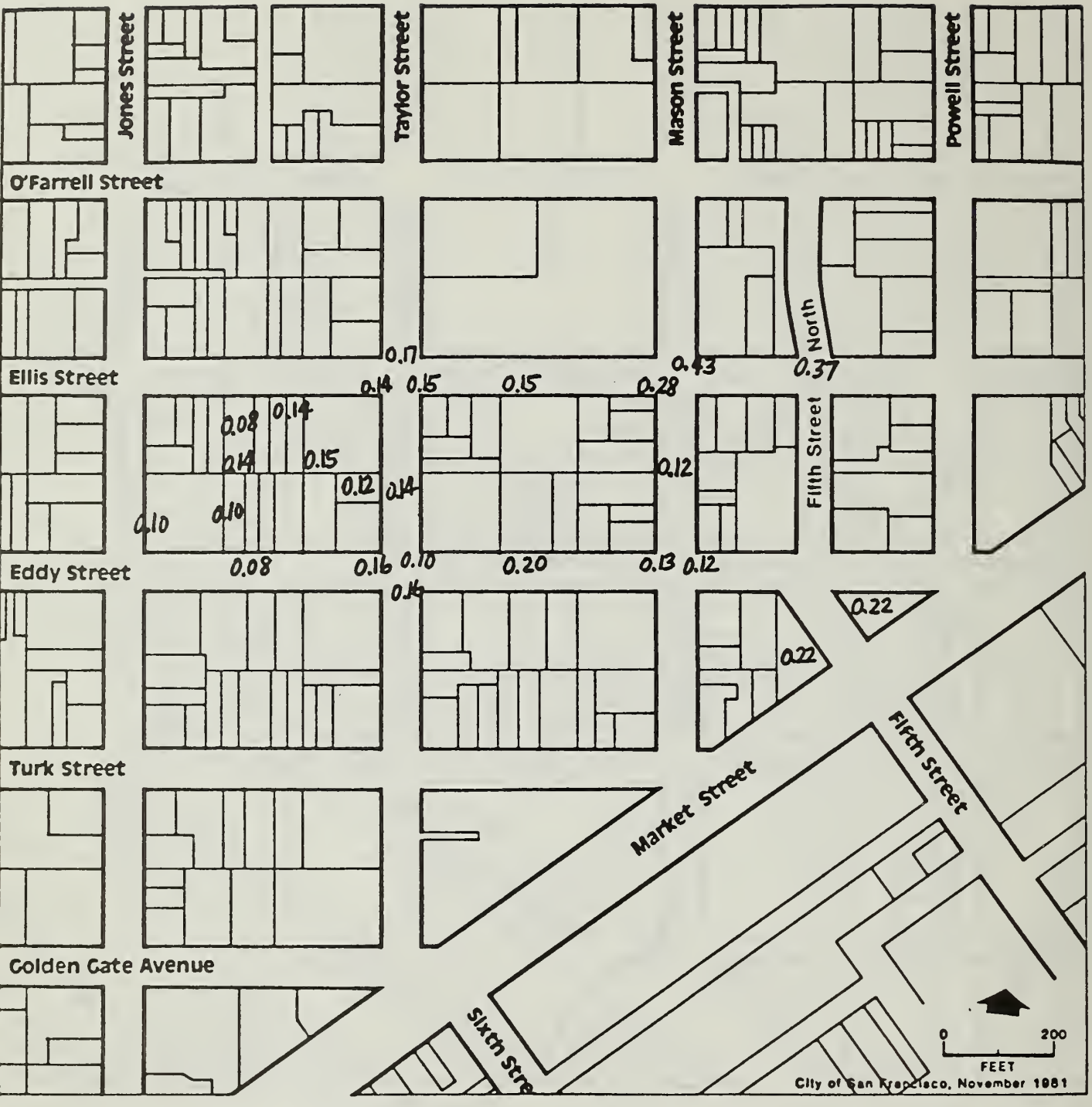
Legend NEAR-SURFACE WIND DIRECTIONS FOR NORTHWESTERLY WINDS - PROPOSED SETTING.

SOURCE: Environmental Science Associates, Inc.



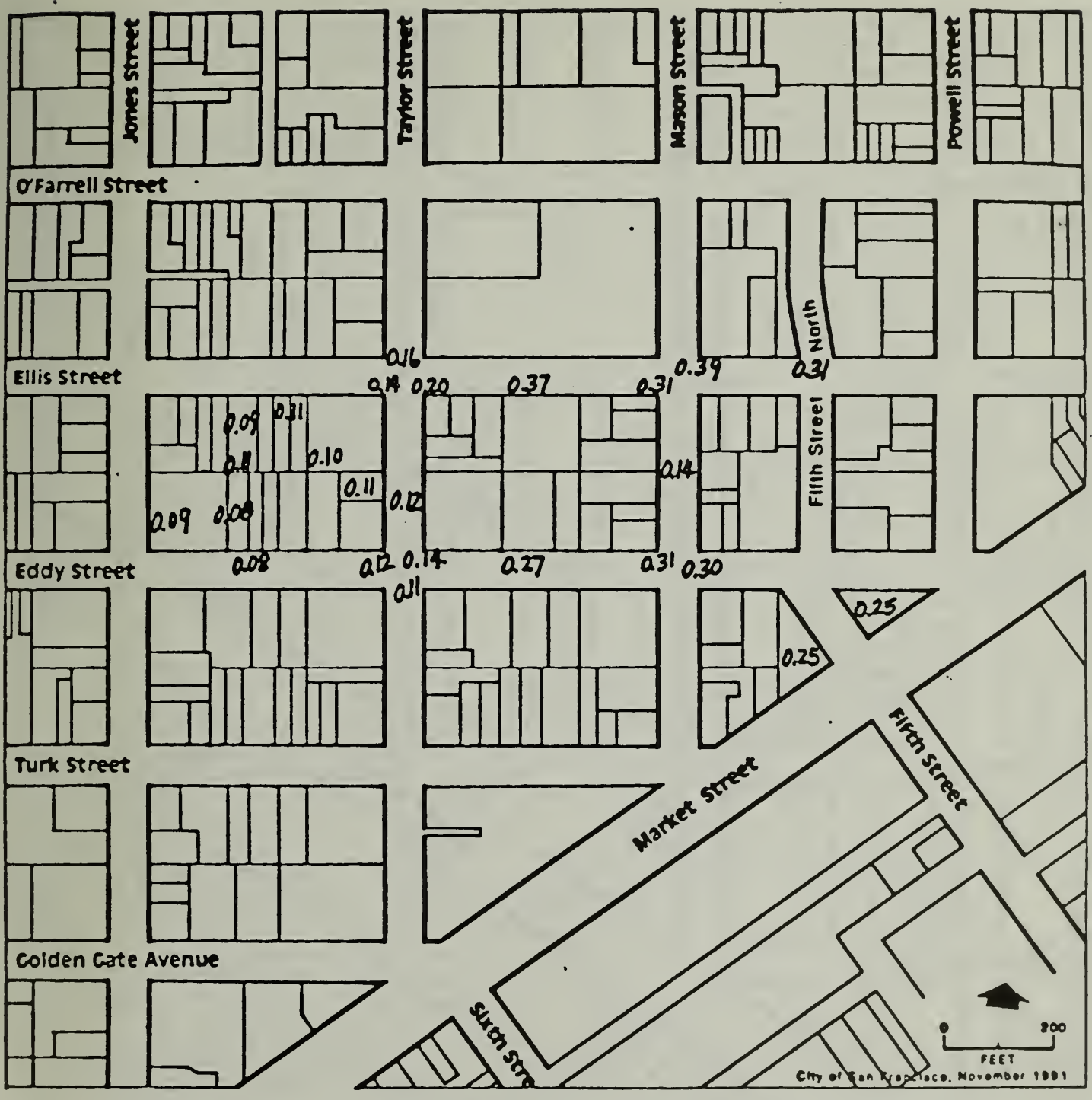
Legend NEAR-SURFACE WIND DIRECTIONS FOR NORTHWESTERLY WINDS - ALTERNATIVE SETTING.

SOURCE: Environmental Science Associates, Inc.



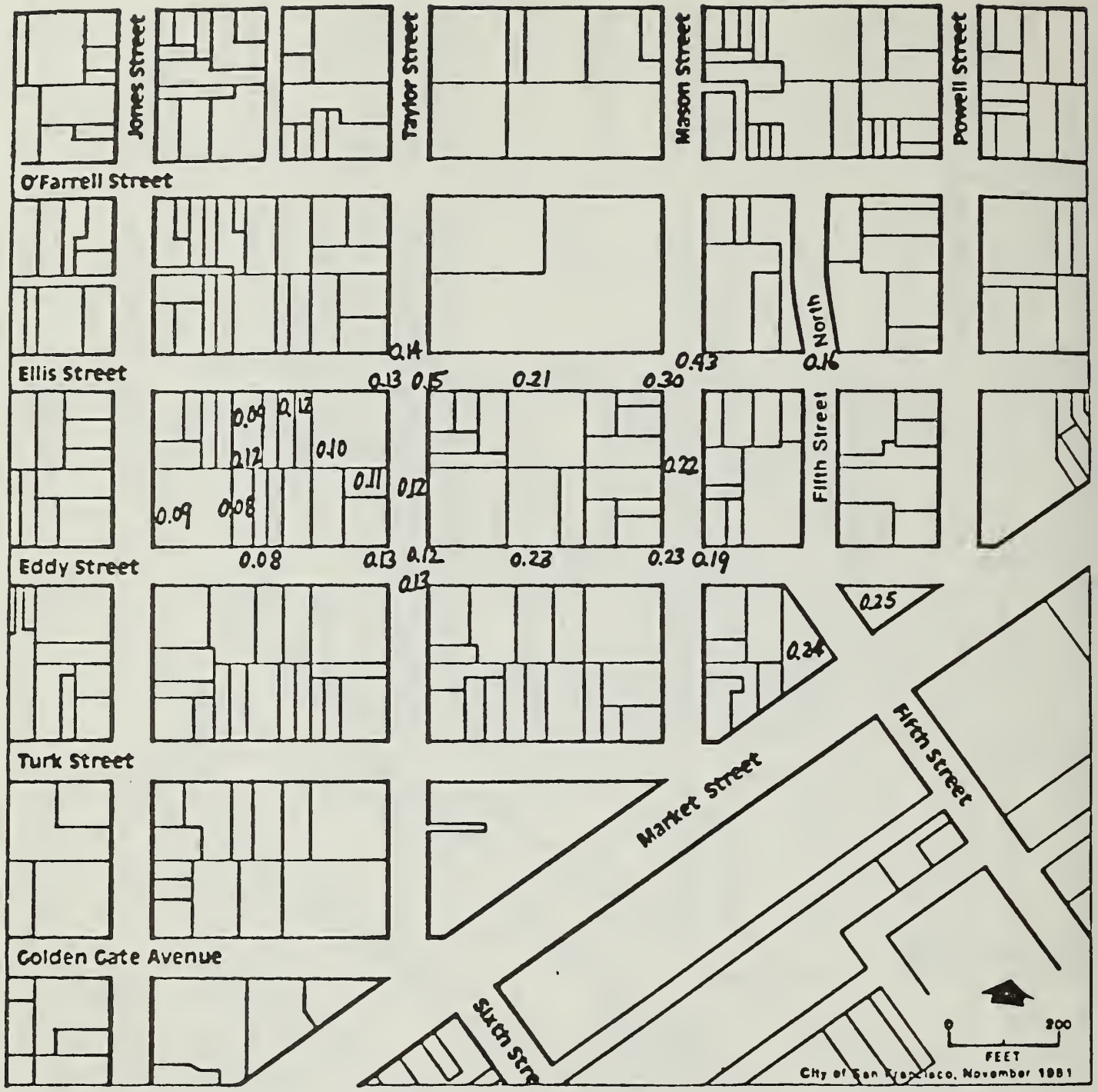
Legend WIND SPEED RATIOS FOR SOUTHWESTERLY WINDS - EXISTING SETTING.

SOURCE: Environmental Science Associates, Inc.



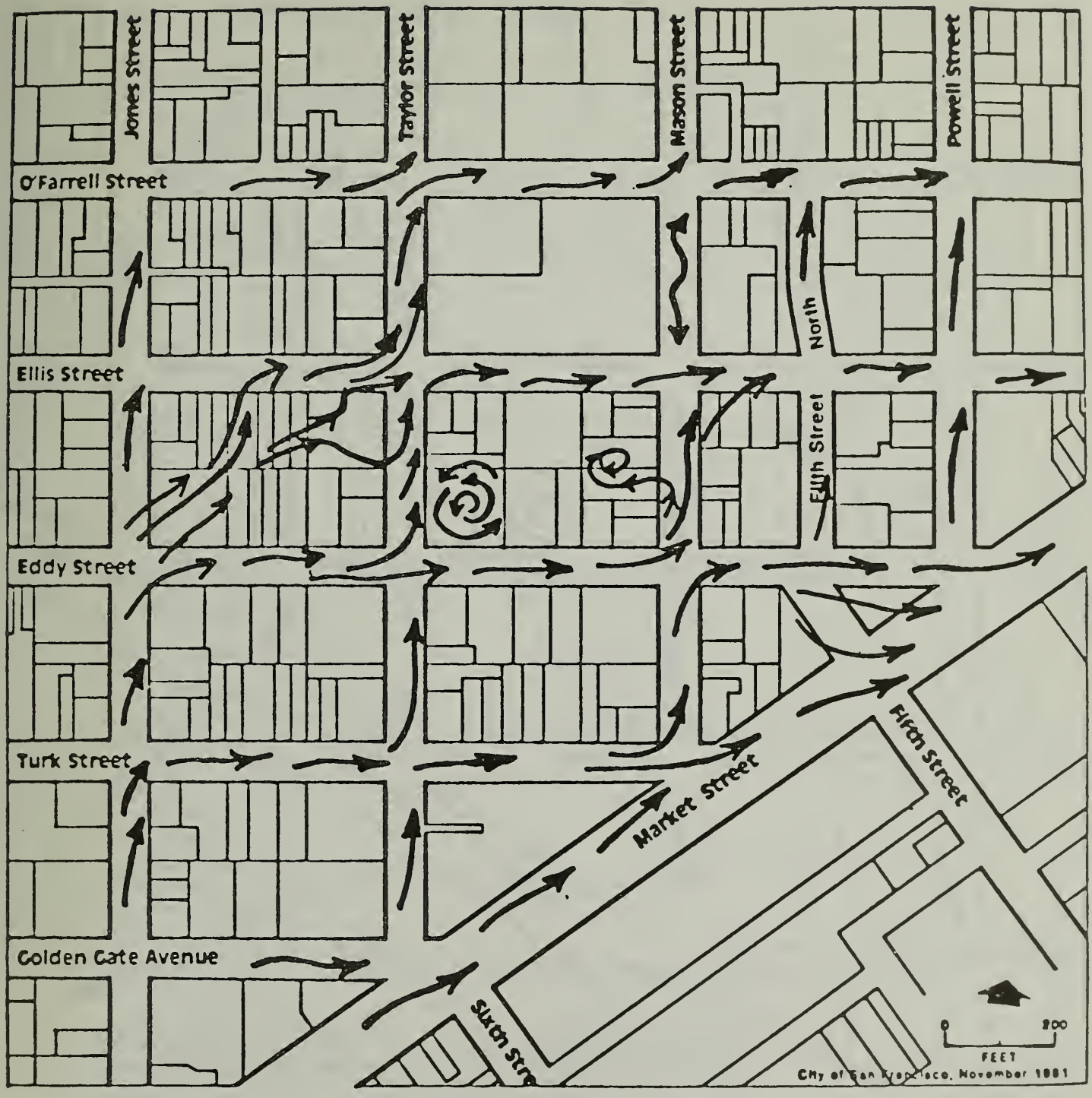
Legend WIND SPEED RATIOS FOR SOUTHWESTERLY WINDS - PROPOSED SETTING.

SOURCE: Environmental Science Association, Inc.



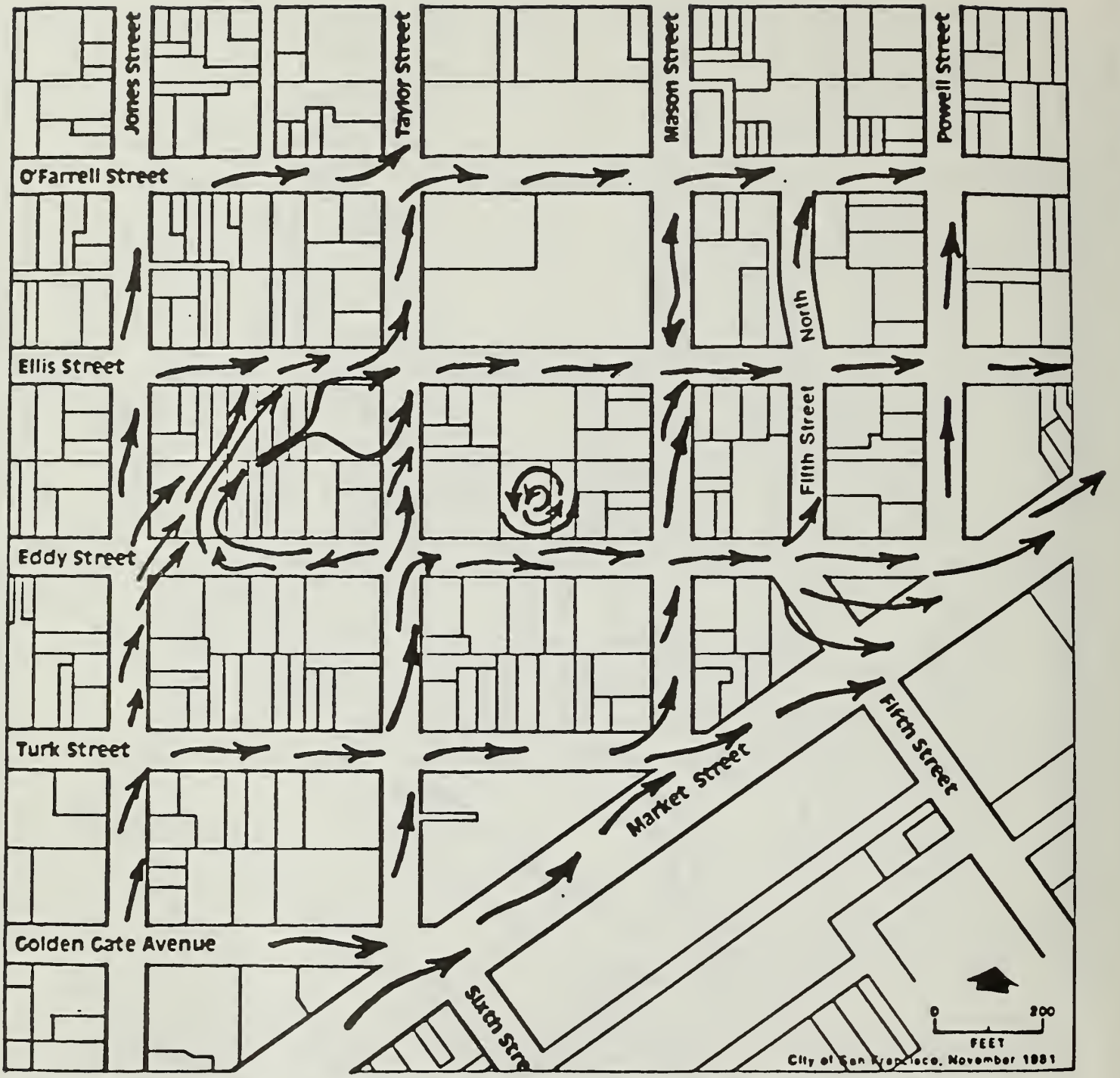
Legend WIND SPEED RATIOS FOR SOUTHWESTERLY WINDS - ALTERNATIVE SETTING.

SOURCE. Environmental Science Associates, Inc.



Legend NEAR-SURFACE WIND DIRECTIONS FOR SOUTHWESTERLY WINDS - EXISTING SETTING.

SOURCE: Environmental Science Associates, Inc.



Legend NEAR-SURFACE WIND DIRECTIONS FOR SOUTHWESTERLY WINDS - PROPOSED AND ALTERNATIVE SETTINGS.

SOURCE. Environmental Science Associates, Inc.

TABLE C-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1982 IN GROSS SQUARE FEET

Year	Total Gross Sq. Ft. Completed	5-Year Total	5-Year Annual Average	Cumulative Total of All Office Buildings	Cumulative Total of All Downtown Office Buildings
Pre-1960		(Net)(a)	(Net)(a)	28,145,000(b)	24,175,000(c)
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
		2,866,000	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	--				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	--				
1979	2,532,000				
		8,157,000	1,631,400		
1975-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981	3,029,000				
1982	3,771,000	8,084,000(d)	2,694,700(d)		
1980-1982		(7,275,600)(d)	(2,425,200)(d)	60,635,600	56,559,600

(a) Net equals 90% of gross. Net new space is added at an increase factor of 90%, since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.

(b) Source: San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes one-third of retail-office mixed use. For post-1964, data include the entire city.

(c) Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin Street is included.

(d) Three-year total and average.

SOURCE: Department of City Planning, March 15, 1983

CUMULATIVE IMPACT ANALYSIS METHODOLOGY

Travel Demand

Travel demand from the 17.3 million gross square feet of net new cumulative office development and 0.6 million gross square feet of net new cumulative retail development in downtown San Francisco has been estimated by use of a land-use approach for trip generation. Future travel into the downtown has been assumed to be a result of construction and occupancy of downtown office and retail space. The Office of Environmental Review of the Department of City Planning (DCP) has identified office projects in the greater downtown area as being under formal review, approved or under construction. Table C-2 shows the list of projects separated by review status and includes Assessor's Block number and DCP case number for each project. Table C-2 contains the total gross square feet of office and retail space for each review status category. The information contained in these tables represents the best data available from the Department of City Planning at the time of preparation of this document.

Two redevelopment areas (Yerba Buena Center and Rincon Point - South Beach) and one private development (Mission Bay) are located in or near the greater downtown area. In the redevelopment areas the majority of building sites do not yet have Land Disposition Agreements (LDA) approved. Until such time as specific LDA's are approved, no estimate of travel demand can be made (thus, parcels for which no LDA exists have not been included in the cumulative analyses). Development in the Yerba Buena Center (YBC) Redevelopment Area will be in accordance wth the YBC Redevelopment Plan, as amended. Possible land uses that would be in accordance with the Yerba Buena Center Redevelopment Area Plan include commercial entertainment, convention facility (existing), cultural, downtown support service, exhibit/ballroom space, hotel rooms, institutional, light industry, market-rate dwelling units, subsidized dwelling units, office, park or plaza, pedestrian concourse, parking, and retail./1/ Possible land uses in the Rincon Point - South Beach Redevelopment Area include hotel, housing, office, open space, public parking, retail, and warehouse uses./2/ Mission Bay has not been included in the cumulative analyses as no application has been submitted to the City and it is uncertain what formal proposal may be made.

Table C-3 shows hotels proposed, approved, and under construction in downtown San Francisco. Hotel projects have not been included in the cumulative analyses because hotels have fewer than 0.5 employees per 1,000 gross feet of floor area, and thus do not significantly affect peak-hour traffic. Many hotel trips (e.g., a taxi trip from a hotel to an office building) are limited to intra-city travel and do not affect regional transport. Hotel travel includes taxi and charter and tour bus use, however, which is accounted for in Table C-4. As shown in Table C-4, these hotels would generate about 800 p.m. peak hour vehicle trip ends (representing but 5% of the peak hour vehicular traffic to be generated by new office development). Demand for new taxi and tour bus use may require expansion of the number of these vehicles operating in downtown.

Existing office and retail space that would be replaced by new buildings was subtracted from the proposed new construction to better approximate the impacts the new buildings would have on transportation facilities. As shown in Table C-2, net new office and retail space is less than total new construction as a result of subtraction of existing office and retail space on sites proposed for new buildings.

TABLE C-2: CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO AS OF JANUARY 27, 1983

Assessor's Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New Constr.	Office (Gross Sq. Ft.) Net New Constr.	Retail (Gross Sq. Ft.) Total New Constr.	Retail (Gross Sq. Ft.) Net New Constr.
		Downtown Office Projects Under Formal Review				
110	82.129E	Embarcadero Terraces	142,000	142,000	3,000	3,000
112	81.258	Ice House Conversion(C)*	209,000	209,000		
113	82.418E	1171 Sansome	30,000	30,000		
136	81.245	955 Front at Green	50,000	50,000		
176	81.673EACV	Columbus/Pacific Savoy	49,000	49,000	22,000	22,000
176	82.368ED	900 Kearny	25,000	25,000	5,000	5,000
228	81.610ED	569 Sacramento (C)	19,000	19,000		
269	81.132ED	Russ Tower Addition	392,900	392,900	13,000	13,000
288	81.687ED	222 Kearny/Sutter	269,400	202,400	10,000	-8,400
331	81.448E	Mixed Use Development	218,600	207,600	44,700	19,700
669	81.667ED	1361 Bush (C)	45,720	45,720		
716	81.581ED	Polk/O'Farrell	61,600	61,600	22,400	22,400
814	81.540E	101 Hayes	126,000	126,000	6,000	6,000
816	82.212E	300-350 Gough	16,000	16,000		
834	82.603E	25 Van Ness (addition)	42,000	42,000		
3702	81.549ED	1145 Market	137,500	108,500	8,000	8,000
9907	81.245C	New Montgomery Pl.	231,500	217,400	2,200	-3,900
3708	81.493ED	71 Stevenson	324,600	324,600	6,200	6,200
3717	81.183E	123 Mission	342,800	342,800		
3733	82.29E	832 Folsom	50,000	50,000		
3750	82.241E	600 Harrison at Second	228,000	228,000	10,000	10,000
3750	82.77E	642 Harrison (C)	54,400	45,900		
3760	81.386	401 6th	7,000	7,000		
3763	82.384EV	400 2nd at Harrison	71,500	49,500		
3778	81.630ED	548 5th/Brannan	250,000	250,000		
3786	82.33E	655 5th/Townsend	126,250	126,250		
3788	82.352EV	640 2nd	39,100	37,400		
3789	82.31EV	615 2nd/Brannan (C)	106,000	106,000		
9900	81.63	Ferry Building Rehab	308,000	96,000	150,000	124,000
TOTAL UNDER FORMAL REVIEW			3,972,870	3,607,570	302,500	227,000

(continued)

TABLE C-2: CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO AS OF JANUARY 27, 1983 (Continued)

Assessor's Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New Constr.	Office (Gross Sq. Ft.) Net New Constr.	Retail (Gross Sq. Ft.) Total New Constr.	Retail (Gross Sq. Ft.) Net New Constr.
		Approved Downtown Office Projects				
58	82.234E	Roundhouse	45,000	45,000	3,000	3,000
141		100 Broadway	13,000	13,000		
143		1000 Montgomery (C)	39,000	39,000		
161	80.191	Mirawa Center	36,000	36,000	30,650	30,650
164	81.631D	847 Sansome	23,750	23,750		
164	81.573D	50 Osgood Place	22,500	22,500	9,100	9,100
166	80.15	750 Battery	105,400	105,400	12,800	12,800
240	81.705ED	580 California/Kearny	329,500	260,000	6,500	6,500
261	81.249ECQ	333 California	640,000	466,500	15,500	15,500
262	81.206D	130 Battery	41,000	41,000		
265	81.195ED	388 Market at Pine	234,500	85,500	10,000	-8,500
267	81.241D	160 Sansome	2,200	2,200		
268	81.422D	250 Montgomery at Pine	105,700	65,700	8,000	8,000
270	81.175ED	466 Bush	86,700	86,700	7,800	2,200
271		582 Bush	18,900	18,900		
288	81.461EC	333 Bush (Campeau)	498,400	458,100	20,900	20,900
294	82.870	44 Campton Place	7,600	7,600		
311	82.120D	S.F. Federal	246,800	218,850	1,600	-9,440
834	82.603E	25 Van Ness (C)	101,600	101,600	36,400	36,400
3512	82.14	Van Ness Plaza	170,000	170,000	6,000	6,000
3518	81.483V	291 10th St.	25,700	25,700		-25,700
3705	80.315	Pacific III Apparel Mart	332,400	332,400		
3707	81.492ED	90 New Montgomery	124,300	124,300	3,350	3,350
3709	81.113ED	Central Plaza	353,100	136,300	17,400	17,400
3715	82.16EC	121 Steuart	33,200	33,200		
3722	81.417ED	144 Second at Minna	30,000	30,000		
3724	81.102E	Holland Ct. (C)	27,850	27,850		
3729	82.860	774 Tehama	5,800	5,800		
3732	81.548DE	466 Clementina (C)	15,150	15,150		
3733	81.2	868 Folsom	65,000	65,000		
3735	80.106	95 Hawthorne (C)	61,900	61,900		
3738	DR85	315 Howard	294,000	294,000	3,200	3,200
3741	82.203C	201 Spear	229,000	229,000	5,200	5,200
3749	81.18	Marathon - 2nd & Folsom	681,700	681,700	39,300	39,300
3752	77-220	Office Bldg. (YBC SB-1)	11,000	11,000		
3763	81.287V	490 2nd at Bryant (C)	40,000	40,000		
3763	81.381	480 2nd at Stillman (C)	35,000	35,000		
3775	81.147V	338-340 Brannan (C)	36,000	36,000		
3776	81.59	Welsh Commons	55,600	55,600	12,000	12,000
3776	81.693EV	539 Bryant/Zoe	63,000	63,000		
3787	81.306	252 Townsend at Lusk	81,900	81,900		
3788	81.296Z	690 2nd/Townsend (C)	16,600	16,600	16,000	16,000
3789	81.552EV	625 2nd/Townsend (C)	157,000	157,000		
3794	81.569EV	123 Townsend	104,000	49,500		
3794		155 Townsend	19,000	19,000		
3803	81.244D	China Basin Expansion	196,000	196,000		
TOTAL APPROVED			5,861,750	5,090,200	264,700	203,860

TABLE C-2: CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO AS OF JANUARY 27, 1983 (Continued)

Assessor's Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New Constr.	Office (Gross Sq. Ft.) Net New Constr.	Retail (Gross Sq. Ft.) Total New Constr.	Retail (Gross Sq. Ft.) Net New Constr.
		Downtown Office Projects Under Construction				
106	81.415ED	1299 Sansome	41,000	41,000	3,500	3,500
227	80.296	Bank of Canton	230,500	177,500		-800
163	81.1	901 Montgomery	63,000	63,000	18,800	18,800
164	81.251D	936 Montgomery	21,500	11,500		
166	CU81.7	222 Pacific at Front(C)	142,000	142,000		
167		Golden Gateway III	103,000	103,000		
196		736 Montgomery	40,000	40,000		
196	CU79.49	Pacific Lumber Co.	92,000	92,000		
206	81.165D	401 Washington/Battery	13,200	13,200	1,800	1,800
208	81.104EDC	Washington/Montgomery	235,000	233,300	4,000	-1,200
237	DR80.6	353 Sacramento (Daon)	277,000	251,000	8,300	-2,000
239	DR80.1	456 Montgomery	160,550	160,550	24,250	24,250
240	DR80.16	550 Kearny	71,400	71,400		
263	CU79.12	101 California	1,265,000	1,257,000	24,700	-14,300
271	81.517	453 Grant	27,500	27,500	6,200	6,200
287	81.550D	Sloane Building (C)	125,300	125,300	30,000	30,000
288	DR80.24	101 Montgomery	264,000	234,000	5,900	-14,100
289	81.308D	One Sansome	603,000	603,000	7,000	7,000
292	DR79.13	Crocker National Bank	676,000	495,000	86,000	54,000
312	79.370	50 Grant	90,000	90,000		
351	79.133	U.N. Plaza	92,050	92,050		
351	DR79.24	Mardikian/1170 Market	40,000	40,000		
672		Wealth Investments	104,500	104,500		
738		One Flynn Center	25,000	25,000		
762		Opera Plaza	50,000	50,000		
3702	81.25	1155 Market/8th	138,700	138,700	8,800	8,800
3708	80.34	25 Jessie/Ecker Square	111,000	111,000		
3709	80.36	Five Fremont Center	791,200	722,200	35,000	17,300
3712	79.11	Federal Reserve Bank	640,000	640,000		
3715		141 Steuart	80,000	80,000		
3717	79.236	101 Mission at Spear	219,350	219,350		
3717		150 Spear	330,000	330,000		
3717	82.82D	135 Main	260,000	260,000	4,000	4,000
3717	80.349	Spear/Main (160 Spear)	279,000	279,000	7,600	7,600
3718	79.12	Pacific Gateway	540,000	540,000	7,500	7,500
3724		Yerba Buena West	335,000	335,000		
3735		Convention Plaza	339,000	339,000		
3735		Planter's Hotel (C)	20,000	20,000		
TOTAL UNDER CONSTRUCTION			8,935,750	8,557,050	283,350	158,350
GRAND TOTAL (ALL PROJECTS)			18,770,370	17,254,820	850,550	589,210

* (C) - Conversion (generally industrial and/or warehouse to office)

SOURCE: Department of City Planning.

TABLE C-3: CUMULATIVE HOTEL DEVELOPMENT IN DOWNTOWN SAN FRANCISCO

Assessor's Block	Project Name	Rooms
	PROJECTS UNDER FORMAL REVIEW	
297	Post - Mason	375
331	Mason Tower (AB 331)*	455
	APPROVED	
325	Hilton Tower No. 2	410
326	Holiday Inn - Mason St.	805
742	790 Van Ness at Eddy	125
3701	Holiday Inn - 8th St.	225
	UNDER CONSTRUCTION	
330	Ramada	1,040
3706	Meridien	700
		4,135

* Part of the project under analysis in this document.

SOURCE: Environmental Science Associates, Inc.

TABLE C-4: ESTIMATED CUMULATIVE HOTEL TRAVEL

	24-Hour Total	P.M. Peak Hour
Person trip ends*	39,670	3,000
Auto		1,015
Muni		525
BART		210
AC Transit		65
SamTrans		30
Peninsula Train		30
GGT (Bus)		180
Charter or tour bus		330
Other		615
Vehicular trip ends*	9,920	790
Auto	5,750	460
Taxi	3,470	275
Charter or tour bus	400	30
Service vehicle	300	25

* Trip estimates based on surveys of travel at the Hilton Hotel by John J. Forristal, Consulting Traffic Engineer and ESA, 1980.

SOURCE: Environmental Science Associates, Inc.

Estimates of future travel have been made by use of trip generation rates of 17.5 person trip ends (pte) (one way trips) per 1,000 net leasable square feet of net new office space, and 100 person trip ends per 1,000 gross square feet of net new retail space./3/ Gross square feet of office space was converted to net leasable square feet by assumption of an efficiency factor of 80%. The retail space has been assumed to be primarily "ground-floor retail" which would serve the office building users. Based upon survey data collected at the Embarcadero Center, approximately 45% of the travel generated by "ground-floor retail" uses has been assumed to be oriented to the office uses on-site and is already included in the office trip generation rate. Thus, 55% of the retail trip generation has been assumed to be "new" to each site./4/

P.M. peak-hour travel from the cumulative development was assigned to modes of travel based upon the regional distribution and modal split shown in Table C-5. During the p.m. peak hour about 20% of the office travel and 10% of the retail travel was assumed to occur. Of the office travel approximately 90% (during peak-hours) was assumed to be work-related and 10% was assumed to be other travel. On a daily basis, office travel was assumed to be 57% work-related and 43% other travel./5/

TABLE C-5: TRAVEL DISTRIBUTION AND MODAL SPLIT

Geographic Area	OFFICE Work Travel Geog. %*	Mode	%**	OFFICE Other Travel Geog. %*	Mode	%**	RETAIL All Travel Geog. %*	Mode	%**
San Francisco									
Downtown/Northeast	7	Auto	9	33	Auto	2	84	Auto	3
(East of Van Ness,		Muni	61		Muni	20		Muni	7
North of Market		BART	1		BART	0		BART	1
to the Embarcadero,		Walk	29		Walk	78		Walk	89
South of Market to 101)									
Northwest	15	Auto	31	11	Auto	15	1	Auto	10
(Richmond, Marina		Muni	69		Muni	85		Muni	90
Western Addition)									
Southwest	13	Auto	29	13	Auto	12	2	Auto	10
(Sunset, Parkside,		Muni	62		Muni	69		Muni	80
Ingleside, Excelsior,		BART	9		BART	19		BART	10
Twin Peaks, and Upper Market)									
Southeast	5	Auto	26	7	Auto	12	2	Auto	10
(Potrero Hill, Bayview,		Muni	52		Muni	38		Muni	80
Hunters Point,		BART	22		BART	50		BART	10
East and South of 101)									
Peninsula	18	Auto	44	8	Auto	50	3	Auto	25
(San Mateo and Santa		Muni	3		Muni	0		Muni	0
Clara Counties)		BART	19		BART	30		BART	25
		SamT	7		SamT	10		SamT	0
		SPRR	27		SPRR	10		SPRR	50
East Bay	30	Auto	33	20	Auto	13	6	Auto	38
(Alameda and Contra		BART	37		BART	79		BART	62
Costa Counties)		A-C	30		A-C	8		A-C	0
North Bay***	12	Auto	58	8	Auto	70	2	Auto	70
(Marin and Sonoma		GGTB	35		GGTB	20		GGTB	30
Counties)		GGTF	7		GGTF	10		GGTF	0

* Percent of total travel with origins or destinations in each geographic area.
**Percent of travel in each geographic area using listed mode of travel.
***GGTB stands for Golden Gate Transit Bus; GGTF stands for Golden Gate Transit Ferry.

SOURCE: San Francisco Department of City Planning, TJKM Transportation Consultants, Environmental Science Associates.

For calculation of vehicle trip ends, average automobile occupancies were assumed for each regional area based upon available data. Currently, commute travel to the East Bay is about 1.8 persons per vehicle; to the North Bay is about 1.5 persons per vehicle; and to the Peninsula is about 1.2 persons per vehicle./6/ San Francisco auto occupancy was assumed to be 1.4 persons per vehicle./7/

A basic assumption in all of the transportation analyses is that existing regional distributions and modal splits would continue into the future unchanged. Thus, the implicit assumption has been made that about 40% of the future employees would live in San Francisco. If housing is not available in the City, then a greater impact than noted would result on the commute corridors into the City from the North Bay, East Bay and Peninsula. If housing is not available in the City, however, the impact on the Muni would be less than noted because City residents are the majority of Muni users.

Long-term and short-term parking demand for the 17.3 million gross square feet of net new cumulative office development and 0.6 million gross square feet of net new retail development in the greater downtown area has been calculated to be about 18,500 spaces. Long-term parking demand has been assumed to be distributed over the greater downtown and South of Market areas rather than being concentrated near the proposed project location. A recent survey by the Department of City Planning shows that there are about 37,000 off-street parking spaces in the C-3 district and an additional 6,500 spaces in the area bounded by The Embarcadero and Folsom, Eighth and Bryant Sts. Based upon average occupancy, about 4,100 spaces are available on a daily basis./7/ Projects under formal review, approved, and under construction in the downtown would add about 5,500 new parking spaces thus the cumulative demand for the whole downtown area would create a theoretical net deficit of 8,900 spaces. Parking demand has been based upon existing travel patterns and is not dependent upon the availability of parking spaces or the ability of the freeway and bridge system to carry the additional demand.

The deficit may be less than this estimate as the survey did not inventory parking in the Civic Center area, or the areas west of Eighth St., south of Bryant St. or north of Washington St. The survey did indicate that inside the study area about 6,000 parking spaces have been added since 1967 and approximately 1,400 are proposed to be added (exclusive of 4,845 parking spaces to be provided in Yerba Buena Center).

If vehicle occupancy were to increase, vehicle trip ends and subsequent parking demand would be less than projected. Alternately, the peak hour level of demand could spread into hours adjacent to the peak hour (as is currently happening). However, there is a finite limit as to how far the peak can spread over time and still allow business to function.

Transit demand has been projected based upon existing travel patterns, independently of the availability of transit capacity. Calculations for two levels of operations (load factor) have been made. One load factor has been calculated based upon existing capacity and represents conditions that would result if no improvements are made to the transit system. The second load factor is calculated based upon forecast capacity (as defined in each agency's 5-year plan) and is intended to portray conditions that would result if planned, scheduled improvements are made.

Additional ridership from the projected 17.3 million gross square feet of net new cumulative development in San Francisco would cause demand on most of the affected Muni lines to exceed existing capacity. This would also be the case for BART transbay, Southern Pacific, and SamTrans. As the cumulative demand increases, the length of time of peak loadings would increase, spreading peak-of-the-peak conditions over time. Some lines operate only during heavy demand periods (for example, express service for 1 to 2 hours during peak periods), so additional capacity may not be available to allow spreading over time without addition of more runs. Additional runs may not require increases in vehicle fleet size, as the additional runs would be extending the peak period level of service over a longer period of time, but would increase operating and maintenance costs.

Employment Trend Approach to Cumulative Analysis

In this and other San Francisco EIRs, a land use approach has been used to estimate employment and the resultant transportation impacts of both the proposed project and cumulative development. An alternate approach is to forecast travel demand based upon regional projections of employment share (employment trend approach)./8/ Briefly, the fundamental differences between (and limitations of) the two approaches are:/9/

The land use approach (as it has been applied in this EIR) has used net new office space actually proposed or under construction (less space in buildings demolished to make way for new buildings) as the basis for travel generation. The land use approach assumes that literally all of the currently proposed development in the downtown area will be constructed and fully occupied within the time frame of the Mixed Use Development project construction and occupancy. No allowance has been made for less than 100% occupancy, for proposed developments that are never constructed, or for those that would not be occupied within the time frame of the Mixed Use Development project.

The employment trend approach generates a total increase in employment in downtown that has taken account of loss of employment as industries and offices move out of the City, replacement of one industry with another (industry shifts), as well as replacement of existing office space with new office space. The employment trend approach makes no implicit assumptions concerning occupancy rates or actual square footage of development constructed; rather, it generates total employment increases by assigning jobs by metropolitan sector (area), based upon extrapolation of past trends, and considering long-term industry shifts to, within, and away from each area.

Note that neither of the two approaches has attempted to project future changes in modal split.

To illustrate the differences in projections resulting from the two approaches, Table C-6, following, shows the total employment projections by the two methods (and the project's share thereof), the regional distribution of trips, and Muni's share of the new transit travel (and the project's share thereof).

As shown in the table, the employment trend approach predicts about 20% fewer employees in the downtown than does the land use approach, and an equivalent number of riders on the Muni. The employment trend approach would thus approximate the transit demand impacts discussed on pp. 119 to 121 of the EIR. Similar conclusions can be drawn for the other transit agencies.

TABLE C-6: COMPARISONS OF LAND-USE AND EMPLOYMENT TREND APPROACHES

Approach	Downtown Employment Increase	Project Share/a/	Regional Trip Share S.F.	Pen.	E.B.	N.B.	Muni Peak-hour Increase/b/	Project Share/c/
Land Use	69,000	2%	49%	16%	24%	11%	12,900	4%
Empl.Trend/d/ (maximum)	56,100	2%	50-54%	19%	17-21%	10%	12,900/e/	4%

NOTE: Comparisons between the entries for the two approaches must be made with the understanding that the land-use approach reflects increases in employment and transit demand based solely upon increases in downtown office space, while the employment trend approach reflects total increases therein based upon historical trends. The differences among the regional trip share figures reflect these and the other differences between the two approaches.

/a/ Employment generated by the proposed Mixed Use Development project, as a percent of the cumulative downtown employment increase.

/b/ The Muni peak-hour increase is a demand projection (based upon existing and long-term employment trends) that is not dependent upon available or expected transit capacity.

/c/ Muni peak-hour trips generated by the proposed Mixed Use Development project, as a percent of the cumulative downtown Muni peak-hour increase.

/d/ These figures represent the worst-case analysis under the employment trend approach reviewed and accepted by MTC, ABAG and Muni. Note that the land-use approach entries assume that an additional net new 17.3 million gross square feet of office space will come on line by late 1990.

/e/ Based on 54% regional trip split to San Francisco (worst-case).

The two methods differ in several ways. The land-use approach, as it has been applied in San Francisco EIR's, analyzes impacts for the p.m. peak hour, whereas the employment trend approach analyzes the a.m. peak. Several reasons exist as to why one peak (or the other) may be the better one to analyze.

First, the p.m. peak may be more useful to analyze; actual observation shows that the p.m. peak has a greater overall effect on the local street network and transit system in the Downtown than does the a.m. peak, because more travel takes place during the p.m. peak. Also, transit service is more inclined to differ from scheduled times during the p.m. peak than during the a.m. peak, as operational delays have had an 8- to 10-hour period over which to accumulate. Finally, the on-ramps to the freeway/bridge system are greater bottlenecks (in the p.m. peak) than are the off-ramps (in the a.m. peak).

Conversely, the characteristics of the a.m. peak may be more useful in that they are much sharper than those of the p.m. peak (i.e., a greater percentage of the peak-period

travel occurs during a single hour). Also, as a result of the bridge system into San Francisco, travel inbound into the City is much easier to document, as tolls are collected on the inbound direction on the Golden Gate and Bay Bridges. Finally, a greater proportion of the travel occurring during the a.m. peak is employment-related; the p.m. peak also includes shopping and pleasure trips that are not directly affected by increased office space.

The land-use approach, as it has been used in this EIR, examines the p.m. peak because it has been observed to be the worst case for congestion on the City transportation system. This analysis does not reflect the spreading of the p.m. peak that is currently occurring, as all of the new trips have been assumed to take place in a single hour.

The land use approach calculations have assumed transit capacity to be fixed at existing levels. The OER memorandum/8/ points out, "It should be recognized that transportation is a more 'elastic' resource with many options for expansion including increasing existing capacity by using articulated vehicles, expanded car pool and van pool programs and increasing the peak commuter period through flex-time programs, among others."

If future office development does not occur along the lines of the past long-term trends, as assumed in the employment trend approach, then the projections made in Working Paper I would be revised. The average annual growth during the period 1965-1980 was less than the growth per year proposed, approved, or under construction for the period 1980-1984. The employment trend approach assumes average growth through 1990 would be at the lower historic rate, reflecting activity fluctuations from the current rate including slowdowns due to changing business conditions.

Until a forecast exists to determine how the current decade's cycle of development may differ from the past, a judgment of the applicability of results from Working Paper I may not be made. Consequently, this EIR has retained the land-use approach and presented this comparison of the employment trend approach. Both methods should be looked upon as describing potential scenarios of future conditions.

INTERSECTION ANALYSIS

The capacity analysis of each intersection at which a turning movement count was made used the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity," Transportation Research Circular No. 212, Transportation Research Board, January 1980.) The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service. For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E. Table C-7 shows the definitions of Levels of Service related to v/c ratio.

PEDESTRIAN FLOW REGIMEN

Table C-8 (p. A-64) provides the criteria and flow rate of the pedestrian flow regimen discussed on pp. 121 and 122.

TABLE C-7: VEHICULAR LEVELS OF SERVICE

Level of Service	Description	Volume/Capacity* v/c Ratio
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	0.60-
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can be generally described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restiction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.00+

* Capacity is defined as Level of Service E.

SOURCE: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering, 1965.

TABLE C-8: PEDESTRIAN FLOW REGIMEN

FLOW REGIME	CHOICE	CONFLICTS	FLOW RATE (P/F/M)* Average	FLOW RATE (P/F/M)* Percent of Capacity Used
Open	Free Selection	None	0.5	0.0-3.0
Unimpeded	Some Selection	Minor	0.5-2	3.1-11.0
Impeded	Some Selection	High Indirect Interaction	2-6	11.1-33.0
Constrained	Some Restriction	Multiple	6-10	33.1-56.0
Crowded	Restricted	High Probability	10-14	56.1-78.0
Congested	All Reduced	Frequent	14-18	78.1-100.0
Jammed**	Shuffle Only	Unavoidable		above 100.0

* P/F/M = Pedestrians per foot of effective sidewalk width per minute.
** For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Urban Space for Pedestrians, MIT Press, 1975, Cambridge, MA.

NOTES - APPENDIX C: Transportation Aspects

/1/ Land uses from Second Supplement Yerba Buena Center Final Environmental Impact Report, San Francisco Department of City Planning, certified January 4, 1983.

/2/ Land uses from Rincon Point - South Beach Redevelopment Area, San Francisco, California, Final Environmental Impact Report / Environmental Impact Statement, San Francisco Department of City Planning, Certified November 5, 1980.

/3/ The regional distribution, office trip generation, trip purpose and peak-hour percentage are from Attachment 1 of the Guidelines for Environmental Impact Review, Transportation Impacts, Department of City Planning, October, 1980 and the modal split assignment is from Attachment 2 thereto, supplemented by survey data collected by Environmental Science Associates, Inc.

/4/ Retail trip generation is from Trip Generation, Institute of Transportation Engineers (ITE), 1979. Rates have been adjusted from vehicle trip ends to person trip ends based upon an assumed vehicle occupancy of 1.4 persons per vehicle. The survey of retail travel was conducted by Environmental Science Associates at Embarcadero Center on Thursday, June 17, 1982 between 10:00 a.m. and 4:00 p.m.

/5/ The percentage of work and non-work trips is from the Guidelines (see note 3) and from Urban Travel Patterns for Hospitals, Universities, Office Buildings, and Capitols, Report No. 62, National Cooperative Highway Research Program.

/6/ East Bay auto occupancy is from data collected at the Bay Bridge toll plaza by the Metropolitan Transportation Commission; North Bay auto occupancy is from data collected at the Golden Gate Bridge toll plaza by the Golden Gate Bridge, Highway and Transportation District; Southern Peninsula auto occupancy is an estimate from CalTrans.

/7/ The auto occupancy rate for San Francisco is from The Downtown Traffic and Parking Study, San Francisco Department of Public Works, 1970.

/8/ Department of City Planning, Working Paper I. Projection of Long-range Transportation Demand, May, 1982, prepared in cooperation with the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Municipal Railway (Muni). Employment trend data was compiled by ABAG from Trends in County Business Patterns (U.S. Department of Commerce, Bureau of the Census, March 12, 1979), with 1979 as the base year for future projections and regional distributions. Modal split data are from the 1975 Travel Survey prepared by MTC.

/9/ The Department of City Planning, Office of Environmental Review (OER), has issued a memorandum, dated July 2, 1982 and revised September 8, 1982, dealing with the subject of the differences in the land-use and employment trend approaches, and recommending that both approaches be used in future EIRs to give a more balanced assessment of future peak transportation demand. This memorandum is on file with and available from the Office of Environmental Review, 450 McAllister St., 5th Floor. The memorandum calls out some of the fundamental differences between the two approaches and also details the limitations of each approach.

APPENDIX D: AIR QUALITY SUMMARY

TABLE D-1: SAN FRANCISCO AIR POLLUTANT SUMMARY 1979-1981

STATION: 939 Ellis Street (1979) and 900 23rd Street (1980-81), San Francisco

POLLUTANT:	STANDARD	1979	1980	1981
OZONE (O_3) (Oxidant)				
1-hour concentration (ppm /a/)				
Highest hourly average	0.10/b/ 0.12/c,d/	0.08	0.09	0.07
Number of standard excesses (state)		0	0	0
Expected Annual Excess (national)/d/		0	0	0
CARBON MONOXIDE (CO)				
1-hour concentration (ppm)				
Highest hourly average	35/c/	20	10	8
Number of standard excesses		0	0	0
8-hour concentration (ppm)				
Highest 8-hour average	9/c/	13.8	7.5	5.3
Number of standard excesses		1	0	0
NITROGEN DIOXIDE (NO_2)				
1-hour concentration (ppm)				
Highest hourly average	0.25/b/	0.16	0.17	0.11
Number of standard excesses		0	0	0
SULFUR DIOXIDE (SO_2)				
24-hour concentration (ppm)				
Highest 24-hour average	0.05/b/	0.034	0.018	0.016
Number of standard excesses/e,f/		0	0	0
TOTAL SUSPENDED PARTICULATE (TSP)				
24-hour concentration (ug/m^3 /g/)				
Highest 24-hour average	100/b/	117	173	103
Number of standard excesses/f/		1	6	1
Annual concentration (ug/m^3)				
Annual Geometric Mean	60/b/	42.0	52.1	56.0
Annual standard excess		No	No	No

/a/ ppm: parts per million.
/b/ California standard, not to be equaled or exceeded.
/c/ National standard, not to be exceeded more than once per year (except for annual standards which are not to be exceeded). CO standard is now 20 ppm.
/d/ The national ozone standard was revised from 0.08 ppm to 0.12 ppm in January 1979 and is now expressed in terms of the Expected Annual Excess, which is a three-year average of annual excesses of the 0.12 ppm value.
/e/ The sulfur dioxide standard is considered to be exceeded only if there is a concurrent excess of the state ozone or suspended particulate standards at the same station. Otherwise, the national standard of 0.14 ppm applies.
/f/ Number of observed excess days (measurements taken once every six days).
/g/ ug/m^3: micrograms per cubic meter.

SOURCE: BAAQMD, Air Pollution in the Bay Area by Station and Contaminant; and CARB, California Air Quality Data.

APPENDIX E: EMPLOYMENT, HOUSING AND FISCAL ASPECTS

TABLE E-1: PROJECTED EFFECTS OF PROJECT AND DOWNTOWN OFFICE DEVELOPMENT ON REGIONAL HOUSING MARKETS, 1982-90

	Net Project Demand in 1985	Gross Cumulative Demand 1982 to 1990(c)		Net Housing Stock Growth 1982-1990(d)	Demand as a Percent of Growth, 1982 to 1990	
	No. Households	No. Empl.	No. Households	No. Units	Project	Cumulative
San Francisco (a)	90 to 190	10,400 to 27,700	7,400 to 15,400	12,000	0.8 to 1.6	62.5 to 128.3
Peninsula (b) (San Mateo and Santa Clara Counties)	120	12,500	9,600	87,600	0.1	11.0
East Bay (b) (Alameda and Contra Costa Counties)	195	20,700	15,900	111,800	0.2	14.2
North Bay (b) (Marin and Sonoma Counties)	80	8,300	6,400	36,800	0.2	17.4
TOTAL	485 to 585	51,900 to 69,600	39,300 to 47,300	248,200	0.2	15.8 to 19.1

(a) The range of San Francisco employees and households is based on a report prepared by Recht Hausrath Associates, referenced as Appendix C in the 101 Montgomery Street Final EIR, EE 80.26, Certified May 7, 1981 (15-30% of all employees would reside in San Francisco and 1.4 workers would occupy each household) and "Office Housing Production Program (OHPP) Interim Guidelines," Department of City Planning, January 22, 1982 (40% of all employees would reside in San Francisco and 1.8 workers would occupy each household).

(b) Distribution of employees based on weighted average of expected employees in Federal Reserve Bank (EE 78.207), 101 California Street (EE 78.27), Pacific Gateway, (EE 78.61) and Crocker National Bank (EE 78.298), from 456 Montgomery Street Final EIR (EE 78.178) p. 167 (18% in the Peninsula, 30% in the East Bay, and 12% in the North Bay). Number of workers per household in these counties is assumed to be 1.3, based on 1980 Census data.

(c) Total office space considered in this analysis is about 17.3 million sq. ft. of net new office space (see Table C-2, pp. A-53 to A-55). The proposed Housing Element (May 1982) estimates San Francisco housing needs from 1980 to 85 in Table 21A. This estimate, based on the Citizens' Housing Task Force Report, July 21, 1981, shows a need for about 16,000 to 19,000 units. The "needs" estimate uses a similar office development basis, but also includes housing demand generated by other sources in addition to office development, and covers the years 1980-85.

(d) Net housing stock growth is based on "Projections 79," Association of Bay Area Governments, January 1980. Projections contained in that document for 1980-1990 were prorated to reflect 1982-1990 net housing stock growth.

SOURCE: Environmental Science Associates, Inc.

TABLE E-2: SUMMARY OF RECENT STUDIES ON FISCAL IMPACT OF DOWNTOWN DEVELOPMENT

STUDY, AUTHOR, DATE	PURPOSE OF STUDY	DATA SOURCES	STUDY METHODOLOGY	CONCLUSIONS
"Fiscal Concerns" in Downtown San Francisco Conservation and Development Planning Program, Phase I Study, Sedway/Cooke, et al., October 1979, pp. 56-59	To qualitatively assess the likely fiscal impact of new development in the C-3 area under Proposition O.	SPUR STUDY (1975)	SPUR cost/revenue estimates for downtown in 1973 and for projected growth 1974-1990 were assumed. Proposition 13's effect on revenues and the possible need for increased transportation infrastructure were considered. Generalized conclusions about fiscal impact of new development were drawn.	1) After Proposition 13, "costs may exceed revenues in the downtown by as much as 25%." 2) "[N]ew downtown development will not solve the city's growing fiscal problem; without new revenue sources, development will make it worse in the long run."
Downtown Highrise District Cost Revenue Study, Arthur Andersen & Co., November 1980	To quantify for 1976-77 and 1978-79 how much revenue the C-3-0 area generated and how much it costs to provide city services to the area.	Data compiled from city records and through conversations with city officials.	Only revenues generated within the C-3-0 and costs of providing services to the C-3-0 counted. "The principle guiding the study methodology was to calculate the amount of revenue that San Francisco would lose and the costs that could be reduced if the Downtown Highrise District were a separate city."	The C-3-0 generated $56.79 million in 1976-77, or 61% more than the cost of city services to the area. In 1978-79, revenues were $53.29 million, or 48% greater than costs.
"Fiscal Considerations" Appendix C, 101 Montgomery Street FEIR, Recht Hausrath & Associates, January 1981.	To draw generalized conclusions about "how new development downtown in a post-Proposition 13 environment is likely to change the City's fiscal health from what it would be without new development."	SPUR Study, city records and conversations with city officials.	Under alternative assumptions about the cost/revenue balance in existing buildings and in new buildings, the fiscal impact over time of new development was compared to that of no new development.	"[A]n on-going process of new development would improve the City's fiscal situation. This beneficial impact would cease if new development were halted. This conclusion is tentative due to uncertainties about increased Muni costs."
Downtown Highrise District Cost/Revenue Study, David Jones, February 1981.	To quantify for 1978-79 the revenues generated by businesses in the C-3-0 and the service costs imposed on the city and BART by the C-3-0.	Arthur Andersen study.	The Jones study differs from the Andersen study primarily as follows: 1) Costs of BART (but not revenues to BART) are included; 2) Only revenues paid by businesses and building owners are considered; 3) Muni deficit is computed differently; 4) Most costs are estimated as a percentage of revenues rather than on the basis of actual service demand in the C-3-0.	The C-3-0 imposed costs of $94.4 million on San Francisco and BART, or 125% more than the revenues the area's businesses and building owners generated to San Francisco.
Fiscal Impacts of New Downtown High-Rises on the City and County of San Francisco, Gruen Gruen + Associates March 1981	To quantitatively estimate city revenues from the C-3-0 and costs of serving the C-3-0 in 1998, assuming the addition of 30 million square feet of building space in the C-3-0 between 1981 and 1998.	Arthur Andersen study; data compiled from city records and through conversations with city officials.	"Only direct effects are considered." Costs are only measured for services "provided within the physical limits of the C-3-0 district" and revenues are limited to "taxes on buildings within the district and the activities that take place within those buildings." Assumes the Arthur Andersen study is accurate and builds upon it.	In 1980, revenues from the 39 million square feet of building space in C-3-0 were 1.66 times as large as costs. In 1998, after completion of the 30 million square feet of new space, revenues from the entire 69 million square feet of C-3-0 building space would increase to 1.92 times as large as costs.

SOURCE: Recht Hausrath and Associates, January 1981.

TABLE E-3: HOUSING AFFORDABILITY BY HOUSEHOLD INCOME

Gross Annual Income Per Household or Per Individual	Maximum Affordable Monthly Housing Expenditure	Housing Cost and Type of Unit Monthly Cost**	Type of Unit (Price)	Source
$5,000	$125			
9,600 (a)	240			
10,000	250			
10,680	267	$267	Census Median Rent	(d1)
11,560	289	289	Studio Apartments	(e1)
15,000	375			
18,200	455	455	Median Rent, All Units	(e2)
20,000	500			
23,520	588	588	Rent, 3+ Bedroom Units	(e3)
25,000	625			
27,300 (b)	683			
30,000	750			
35,000	875			
40,000	1,000			
40,880	1,022	1,022	Lowest House Price ($95,000)	(f1)
45,000	1,125	1,125	Census Median Value ($104,600)	(d2)
50,000	1,250			
52,560 (c)	1,314			
55,000	1,375			
65,080	1,627	1,627	Median House Price ($151,203)	(f2)
101,880	2,547	2,547	Highest House Price ($236, 750)	(f3)
300,000 (d)	7,500			

* The Office/Housing Production Program (OHPP) Interim Guidelines (January, 1982) define affordable housing as follows: rental expenses not exceeding 30% of gross monthly income, adjusted for family size; and home ownership expenses not exceeding 38% of gross monthly income, adjusted for family size, including mortgage payments, property taxes, insurance, and/or homeownership association dues. For the purpose of this table, 30% of gross monthly income is used to calculate housing affordablility for both renters and owners. For owners it is assumed that 8% of gross monthly income would cover property taxes, insurance, and/or homeownership association dues and other related expenses. No adjustment has been made for family size because family circumstances vary widely.

** Monthly housing costs refer to rents and to mortgage payments for the housing prices shown in parentheses; sources of rents and house prices are as footnoted. Monthly costs of ownership housing were calculated as monthly mortgage expenses, assuming 20% down payment, 30-year mortgage, and 16% interest rate, not including insurance, property taxes, and other related housing costs.

TABLE E-3: HOUSING AFFORDABILITY BY HOUSEHOLD INCOME (continued)

a. U.S. Bureau of Labor Statistics, March, 1982, "Area wage survey for the San Francisco-Oakland, California Metropolitan Area." $9,600 was the mean 1981 income of inexperienced file clerks, one of the lowest-paid office occupations listed.

b. The $27,300 income figure was derived by inflating the $16,300 median income of downtown office workers from the 1974 SPUR survey through December, 1981 by 67%, using U.S. Bureau of Labor Statistics national wage information for nonsupervisory finance, insurance, and real estate sector employees since 1974.

c. Montgomery-Washington Building FEIR, 81.104E, certified January 28, 1982. The median salary of wage earners working at 601 Montgomery St. was estimated to be $52,560 and the highest salary for corporate officers $300,000, according to a 1981 survey.

d. City Planning and Information Services, "1980 Census Information," March 1982: 1. median rent 2. median noncondominium housing value. Rental data include residential hotels whose rent levels may be substantially lower than other types of rental dwellings and may therefore have an effect on the median rent.

e. Department of City Planning, "Rent Survey," 1980. Median rents are for:
1. studio apartments 2. all units 3. 3+ bedrooms
These data are based on a small nonrandom sample of newspaper ads and may not reflect true rental costs.

f. San Francisco Board of Realtors, "Multiple Sales Service," October 5, 1981. (Annual data on housing sales prices include all homes listed by the Board of Realtors that were sold from February 11, 1981 to October 1, 1981 in San Francisco):
1. lowest price 2. median price 3. highest price

SOURCE: Environmental Science Associates, Inc.

APPENDIX F: ENERGY

TABLE F-1: LIST OF HIGH RISE PROJECTS INCLUDED IN COMPARATIVE ENERGY ANALYSIS

EE Number	Project	Gross Square Feet
74.140	Howard & Main	244,000
74.322	595 Market/a/	434,000
75.60	505 Sansome/a/	142,000
76.126	180 Montgomery/a/	387,500
77.164	Pacific III	265,600
77.220	YBC Cnv Cntr/a/	585,700
78.61	Golden Gateway	323,500
79.11	Federal Reserve	640,000
79.12	Pacific Gatewy	431,000
79.12	101 California	1,166,700
79.13	Crocker Bank/a/	956,000
79.57	Daon (Bat&Sac)	289,000
79.178	456 Montgomery	233,050
79.236	101 Mission	223,600
80.26	101 Montgomery	248,480
80.171	Hotel Ramada/c/	611,400
80.239	Post/Kearny	199,100
80.268	Five Fremont/c/	933,460
80.296	Bank of Canton	168,430
80.308	One Sansome/c/	809,900
80.349	Spear/Main/c/	308,000
80.337	201 Spear/c/	262,000
80.355	One New Mont/c/	240,400
81.25	1155 Market	150,000
81.61	Daon/Main/c/	264,683
81.104	Washington/Mont/c/	329,800
81.113	Central Plaza/c/	353,160
81.113	MUD AB 331/b/	988,017
81.132	Russ Tower/c/	405,900
81.175	466 Bush	86,700
81.183	Mission/Main/c/	398,426
81.195	388 Market/c/	342,900
81.249	333 California/c/	879,520
81.400	Post/Mason Hotel/c/	293,000

(Continued)

TABLE F-1: LIST OF HIGH RISE PROJECTS INCLUDED IN COMPARIATIVE ENERGY ANALYSIS (continued)

EE Number	Project	Gross Square Feet
81.461	333 Bush/c/	498,400
81.492	90 New Montgomery	124,300
81.493	71 Stevenson/c/	324,600
81.687	222 Kearny/Suttr/c/	269,400
81.705	580 California/c/	340,000
( )	Bank of Tokyo/c/	340,900
	333 Market/c/	1,478,600
	444 Market/c/	736,800
	Levi's Plaza/a,c/	1,230,000
	Calif St. Cond/c/	91,000
	Hilton Tower II/c/	318,900

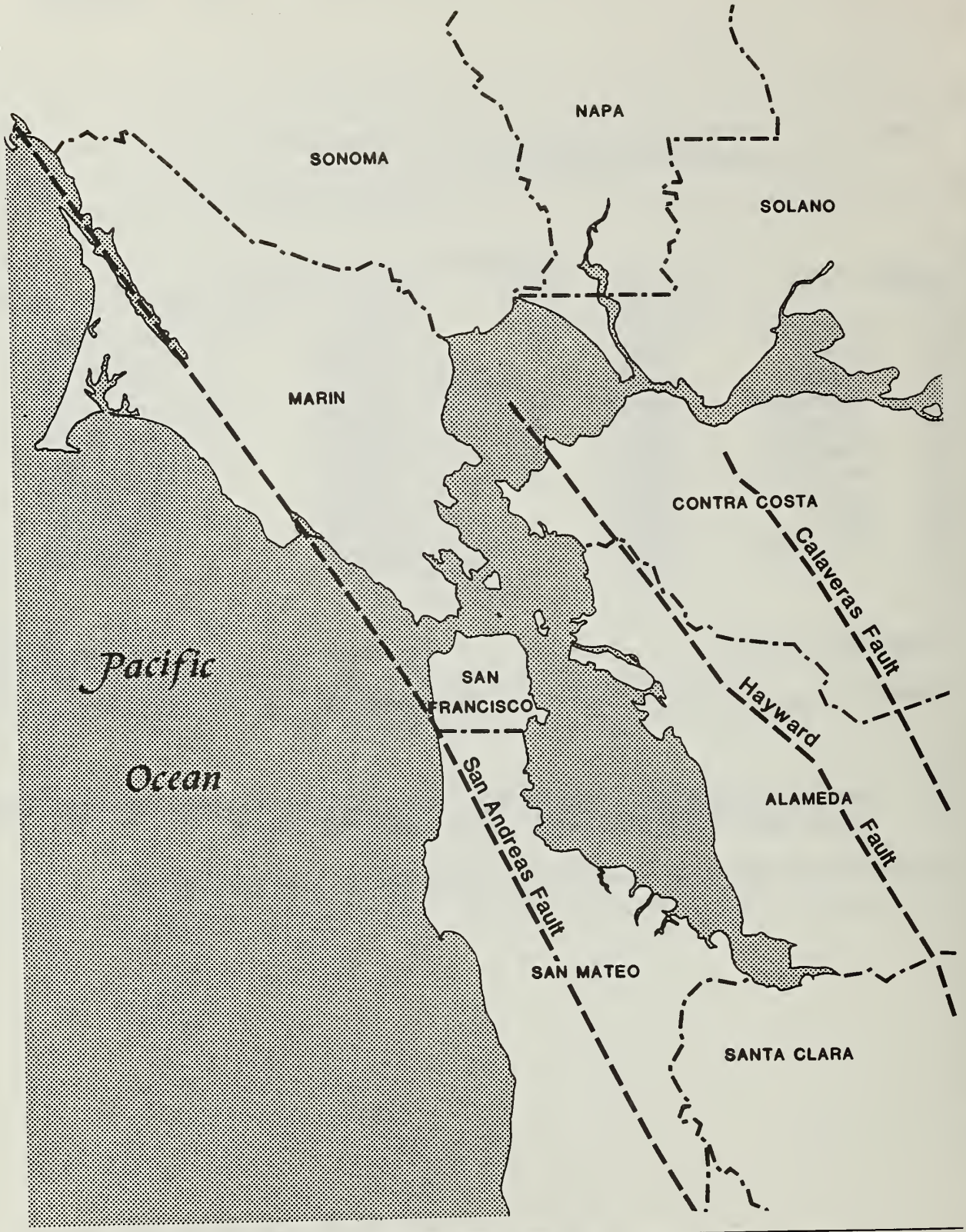
/a/ Already built
/b/ Project discussed in this report.
/c/ Project included in comparative analysis of the project's energy budget.

TABLE F-2: ESTIMATED ANNUAL ENERGY CONSUMPTION OF EXISTING BUILDINGS ON THE SITE

LOT/a/	USE	SQ. FT.	DWELLING UNITS	ELECTRICITY(kWh)	NATURAL GAS(Btu)
1A	residential	13,613	6	18,336	400,000,000
3	retail	4,538		90,760	400,000,000
5	theatre	2,063		41,260	200,000,000
7	residential	17,600	47	143,632	3,100,000,000
8	residential	37,744	90	275,040	5,900,000,000
12	residential	21,024	24	73,344	1,600,000,000
13	residential	21,750	40	122,240	2,600,000,000
14	retail	5,438		108,760	500,000,000
15	bank	5,625		101,250	500,000,000
16	retail/pkg	56,719		1,134,380	5,100,000,000
Total (end use units)				2,109,002	20,300,000,000
Total(Btu at source)				21,600,000,000	22,300,000,000

/a/ Lots 2, 4, 10, and 11 are parking lots. Lots 6 and 9 are the Mason and William Penn hotels, respectively; these hotels are not part of the project.

Source: Theme Resorts, Inc. and Citizens' Energy Policy Advisory Committee



APPENDIX G
Major Active Faults in the San Francisco Bay Area

SOURCE
Environmental Science Associates, Inc.

Block 331
MIXED USE DEVELOPMENT